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ROCHESTER INSTITUTE OF TECHNOLOGY

A Thesis submitted to the Faculty of
The College of Imaging Arts and Sciences
In Candidacy for the Degree of
MASTER OF FINE ARTS
In Medical Illustration

“Dr. Kyle Choe’s Facial Plastic Surgery Patient Education Website”

By

Eunju Park

Date: 10/24/2006

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I. INTRODUCTION

- Thesis Statement

The purpose of the thesis is to develop an interactive website about Facial Plastic Surgery. This website is intended for the use of Dr. Kyle S. Choe, MD., in his medical practice of Facial Plastic Surgery at *Laser Skin and Vein Center of Virginia*. This website explains various procedures of facial plastic surgeries and their outcome. In addition, it introduces the doctor to his patients even before they meet. The website was created in both HTML and Flash to allow access for as many Internet users as possible. In both HTML and Flash versions the website consists of six (6) major categories. There are eight (8) subcategories under “Surgical Procedures” and five (5) subcategories under “Non-surgical Procedures”. The website is organized as listed below:

1. About Dr. Choe
 - Philosophy / Education / Publications & Presentations
2. How to Choose a Surgeon
3. Surgical Procedures
 - Forehead Lift / Mid-face Lift / Lower face Lift / Eyelid Lift / Rhinoplasty / Otoplasty / Hair Restoration / Reconstructive Facial Surgery (Microtia)
4. Non-Surgical Procedures
 - Botox / Injectable Fillers / Fat Transfer / Lasers / Chemical Peels
5. Pre-Op/Post-Op Photos
6. Contact *Laser Skin & Vein Center of Virginia*

* In the thesis, I (Eunju Park) am referred to as “The Illustrator”, and Dr. Kyle S. Choe as “The Client” or “Dr. Choe”.

II. Part ONE

- Defining the Objective

With the daily increase in the usage of World Wide Web among people all around the world, exchanging information through the Internet has become one of the easiest methods of communication. Those who realize the convenience of using the Internet to deliver their message to as many individuals, in as short a period of time as possible, understand the importance of creating their own “message space” on the Web. Thus, the demand from people of various occupations to have their own website has only been expanding with time.

Medical Doctors are no exception. They are aware that patients no longer rely solely on their doctors for the knowledge in medicine that pertains to their physical healing. Medical books for the laypeople have always existed, but the medical knowledge available to the average person dramatically increased with access to the World Wide Web¹. People find it convenient to search through the Web for particular medical information that they need, but, the information is on the Web because a medical expert took the time to display his/her study or literature online. As more people are looking for specific information on the web, more medical experts and organizations are encouraged to provide that knowledge and educational materials. This doesn't only benefit the prospective “patients” but the doctors as well. As the prospective patients search online for the medical treatment that they need, they often are introduced to the doctor who published the article on the Web. This is a great promotion for any doctor, especially for those who own a private practice.

When the Illustrator met Dr. Kyle S. Choe, MD in the winter of 2003, he was

well aware of the power of the World Wide Web and its effectiveness in communication. He was to join the staff of *Laser Skin and Vein Center of Virginia* in the following year, and was contemplating how to promote himself in the new area as well as inform his prospective patients of the treatments that he offers. He decided that having his own professional website was one of the best ways to solve his problem, and he started meeting with the Illustrator to plan a medical website.

1. Defining the Project

a. What are the goals for the project?

- To introduce to the public a new service (facial plastic surgery) available at *Laser Skin & Vein Center of Virginia*
- To educate those who are considering/interested in cosmetic facial plastic surgery

b. Who is our target audience?

The website is intended for both male and female adults – ages ranging from 16 to 75 - who are interested in cosmetic plastic surgery.

c. Why would they view the website?

- To find out more about Dr. Choe and his qualifications/work
- To learn more about each procedure and the prospective outcome

d. Does the website have to get their attention?

Yes.

e. What components are needed for the website?²

- Medical Illustrations

- Anterior view of the face – Upper & lower Eyelid Lift
- Anterior view of the face, looking up from the bottom - Rhinoplasty
- Anterior-lateral view of the face – Forehead Lift and Mid-face Lift
- Lateral view of the face – Forehead Lift, Mid-face Lift and Lower face Lift
- Posterior view of the head – Lower face Lift and Otoplasty

- Text to be published on the website written by Dr. Kyle Choe

- Photographs of Dr. Kyle Choe

- Photographs of Non-surgical procedures products

- Photographs of PreOp & PostOp patients who had facial plastic surgeries performed by Dr. Kyle Choe

- The official logo of “*Laser Skin & Vein Center of Virginia*”

- **Pre-Production**

Since this was a project created to meet the specific needs of the Client (Dr.Choe), thorough discussions between the client and the Illustrator had to take place before the Illustrator could commence the production. For example; what color scheme did the Client want for the interface of the website? What type of font for the text – serif or sans-serif? How surgically detailed should the medical illustrations be? Which steps of the surgery should the medical animations depict? What kind of “atmosphere” did the Client want for the website; quick-tempo and modern, or slow and soft?

Since the Client did not have the full grasp of the procedure of the website production, it was important that the Illustrator do research on the specifics of what elements are used and/or needed for the production, and ask the Client as many questions as possible at the pre-production stage.

The Client had encountered various types of websites in the past, and viewed many existing websites of his field of practice. Therefore, he had some idea on the capacity of some different types of web media, and had developed an interest in certain types of websites. He was fascinated with websites that were built with *Macromedia Flash*. He enjoyed the animated websites instead of static HTML websites, and firmly believed that most of his target audience would have *Macromedia Flash Player* on his/her personal computer. In order to gauge what kind of animation elements could possibly be regenerated for the Client's website, he showed the Illustrator many websites that he found which were built in Flash, and asked the Illustrator, "Can you make this for our website?" When asked, the Illustrator answered "yes" or "no" based on the Illustrator's skill and knowledge of the program. If the answer were "yes", then the Illustrator would provide the Client with the time frame; how much time it would require for the Illustrator to accomplish the animation element. Therefore, the decisions of the animation elements for the website were made based on time and the Illustrator's skill.

- **Research**

First of all, the important question that required to be answered through

research was;

1. How can a Website be accessible to as many people as possible?

Because the target audience is so vast in its range (both male and female – ages from 16 to 75), the website had to have the capability of being accessible to almost everyone who used the Internet. Everyone who has an access to the Internet has the potential of viewing the contents that are posted on the World Wide Web, but not everyone can see all the contents that are online. This depends on 1. the capacity of the processor of the computer, and 2. the speed of the Internet connection. A website that is heavy in its contents with images and other embedded media can take a long time for some computers to receive the data and display it on the screen.

HTML (which stands for “HyperText Markup Language”) is the computer language that forms the basis of web pages³, and creating a webpage in HTML means putting together a page composed of HTML text and JPG, GIF or PNG images. By cautiously restricting the sizes of the web-compressed images that are brought into the webpage, a website created in HTML would take the shortest amount of time to send out its data for any computer to receive. But, the downfall of websites in HTML is that the contents of the page remain static.

People are often impatient when they’re surfing on the Web; it is difficult to keep the viewer staring at one webpage for more than 10-30 seconds. If a website is designed in a way that can captivate the viewer instantly and keep their attention until they receive all the information that the website creator wanted to convey, it would be considered a successful website in terms of its informational design.

The public eyes are accustomed to watching Television – which always shows

the animated films and not static images. Therefore, a layperson quickly gets bored of staring at the computer monitor filled with static images/photographs and text⁴. That is the main reason why such software as Macromedia Flash was created, to enable animation on the Web.

The Client initially wanted the whole website built in Flash, but then he was concerned about losing the smaller percentage of his target audience who may not have Macromedia Flash Player on their computer, or have the slow-speed internet connection, such as Dial-Up. As the Client and the Illustrator discussed who our target audience is, both parties realized that one major group of prospective patients for facial plastic surgery were those who sought the kind of surgeries to appear younger. With the assumption that the majority of the older generation (those who are 60-75 of age) may not be regular World Wide Web users, and that they might not feel the need to download Macromedia Flash Player on their computers, the Client agreed to have his website built in HTML as well as Flash.

In conclusion, in order to maximize the audience who could receive the information that the Client wanted to send out, the Client and the Illustrator decided to create the website both in HTML and Flash; have two different versions of almost the same contents.

2. Medical Illustration

During the discussion with the Client prior to the production of medical illustration for the website, he emphasized that the illustrations should not show the surgical procedures in depth; lest the viewers should be frightened and discouraged against the surgery. The extent of the description the Client wanted to inform the

viewers was the locations of the incisions for each surgery, and the direction of how they are cut. Also, the Client wanted “clean and sophisticated illustrations.”

Upon the Client’s request, the Illustrator suggested that she make illustrations in pen-and-ink style - line drawing with varying brushstrokes – in digital form. The Client agreed to the idea, and suggested that the illustrations should be animated in the website built in Flash.

In order to obtain references for the illustrations, the Illustrator took photographs of a young female in early 20’s⁵ – the anterior view of the face, the mid-lateral view of the face, the lateral view of the face, the posterior view of the head, etc. Then, she took the photograph prints to the Client, for him to specify where the incision lines are for each surgery. The correct location, length and the path’s direction of the incisions were the most important elements of these medical illustrations.

3. Contents of Text

All the text used for the website was written by Dr. Kyle Choe, M.D. The Illustrator helped with grammar corrections.

[Footnote]

1. “The Literature of Medicine – Recommendations from the American College of Physicians”(1997) – Mark E. Frisse, MD & Valerie Florance, MLS, PhD. (<http://www.acponline.org>)
2. Questions guidance from Prof. Peter Byrne, Professor of School of Design at Rochester Institute of Technology

3. <http://www.lib.monash.edu.au/vl/glossind.htm>
4. “Flash Vs. CSS/HTML: Which Will You Choose?”(2003) – Mark Angeletti (<http://www.sitepoint.com>)
5. I’d like to thank J.B. for taking her time to be the model for my photographic references.

III. Part TWO

- Procedure of Production

In order to understand as much as possible what the Client wanted, frequent communication was an absolute necessity. Helping the Client to understand the possibilities and the limitations of the extent of the project was the Illustrator’s job. The Illustrator had a better understanding of the variety of functions that a website can have than the Client, and once they were introduced to the Client, he developed desires for more functionalities for his own website. But, then, it was the matter of time. Creating one function would take more time than the other, so the Client and the Illustrator had to settle upon certain functionalities together that would satisfy both the Client and the deadline of the project. After some decisions were made, the Illustrator divided the procedure of production into sections, and created a Timeline that showed when each section would be completed. The Timeline was presented to the Client, and the two parties decided to have a meeting once a month to check on the progress and refine ideas if necessary.

- HTML Website Production

The Illustrator concluded that creating the HTML version of the website would consume less time than the FLASH version. Since the Client wanted to have the website published on World Wide Web as soon as possible, The Illustrator and the Client decided that the HTML website should be created first, and that one version should be active on the web while the Flash version is under production.

1. Design

a. Hierarchical Map

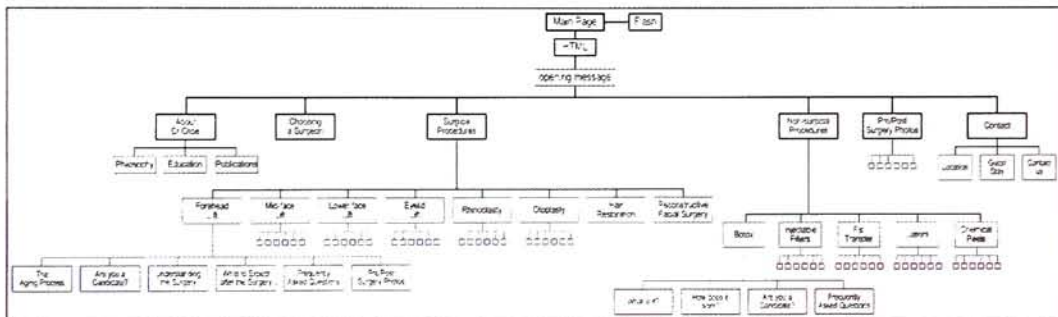
First of all, in order to design the structure of the contents, the Illustrator created the “Hierarchical Map,” which is a branching diagram (See *Figure 1*). This map conveniently shows the relationship between each section of the website at a glance. This “Site Architecture” required a concise planning and organization of massive information that the Client desired to publicize to the target audience.

b. Layout Design

The Client requested that the website should be “sophisticated in design yet easy to navigate.” In order to understand what “sophisticated design” meant to the Client, the Illustrator asked the Client which websites he thought had the “sophisticated look.” The Client forwarded their URLs to the Illustrator (which are included in *Bibliography*), and the Illustrator obtained the better understanding of the Client’s taste in design.

b-1. Color

From the beginning, there was a specific color scheme that the Client wanted for the website: deep dark blue. However, when the legibility of the contents was evaluated, the Illustrator thought that light blue that becomes dark blue from left to right would be more suitable for the background color. As a result, the interface of the website maintained the color scheme of blue, but, overall, more of light blue (sky-blue) than dark blue. Once the choice of the color scheme was set, this was to be applied to the FLASH version of the website as well, in order to maintain the consistency of the whole website.



[Figure 1] Hierarchical Map(layout structure) of HTML website.

*Due to limitation of space, repeated sets are indicated by color of the boxes. For example, a set of category under “Forehead Lift” is repeated for Mid-face Lift, Lower face Lift, and so on.

b-2. Size

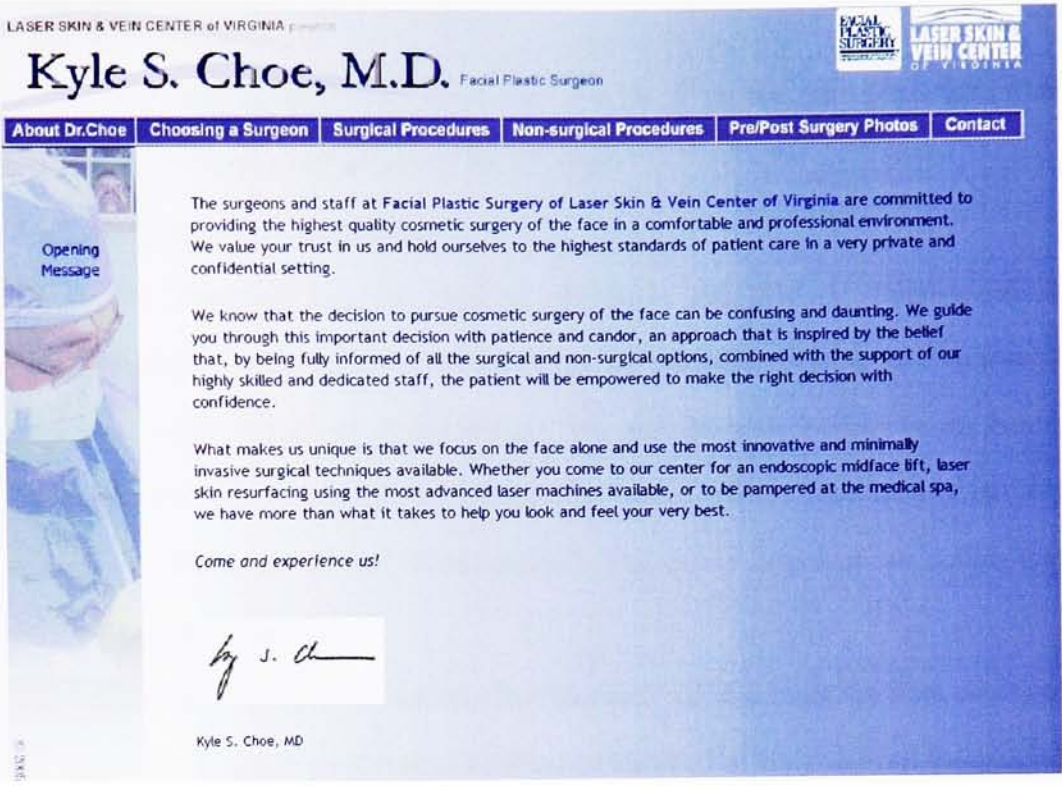
Since the Client’s target audience was so broad in range, the website had to be created with the consideration of accommodating almost every computer user possible. This meant that the website had to be made in the appropriate size that would be viewable on any computer screen. Since the smallest monitor resolution that exists

displays 800x600 pixels (72 ppi), the interface of the website had to be smaller than that. Considering the “tool bar”, “scroll bar” and the frame of different kinds of web browsers that take place on top and sides of the monitor screen, the Illustrator came up with the size of 760x450 pixels (72 ppi) for the interface.

2. Contents

a. Intro. page

Despite the Client’s many contributive ideas on how he wanted the opening of the website to look like for the Flash version, he was aware that the HTML version of the website would have to be designed with the consideration that every page will be static. Regardless, he wanted the opening page to be welcoming and engaging to the viewers, before the viewer made a choice of going deeper into the site by choosing one of the six categories below. In order to personalize the introduction, the Client wanted to put his signature on this webpage. The Illustrator scanned in his signature on a white piece of paper, made some corrections using the Adobe Photoshop, and placed the JPG file right below the text (as shown in *Figure 2*).



[Figure 2] Introduction page of HTML website; This is the first page that the Web user(viewer) sees when he/she clicks on “HTML version”. The page contains introductory message from Dr.Choe.

b. “About Dr.Choe”

The Client wanted the first category of the contents to introduce himself to the viewers. He desired to divide the section to three parts; “Philosophy”, “Education”, and “Publications & Presentations”.

b-1. Philosophy

The Client desired to begin this section by introducing his “Personal Philosophy as a Facial Plastic Surgery” to the viewers. No image was necessary for this page.

b-2. Education

This section in “About Dr. Choe” was to show the list of his education experiences. No image was necessary for this page.

b-3. Publications & Presentations

The Illustrator felt the need to abbreviate the title of “Publications & Presentations” for space efficiency of the design for the web, and presented the idea of having the button simply say “Publications”, but once the viewer clicks on the button and enters that page, he/she will immediately recognize that the page actually has two contents of “Publications” and “Presentations”. This choice improved the design, and the Client agreed to the idea.

For the “Publications” section, the Illustrator scanned in all the front covers of the magazines in which the Client had published his articles. They were all compressed to smaller JPG files, and the Illustrator imported them to the “Publications” page to be in one column (as shown in *Figure 3*).

PUBLICATIONS

Dr. Choe's commitment to the scientific literature is an extension of his dedication to education and research. Listed below are some examples of his continuing contribution to the medical literature, which includes book chapters, journal articles and national scientific publications.

Philosophy
Education
Publications



Archives of Facial Plastic Surgery, July/August 2004

"The Korean-American Woman's Face: Anthropometric Measurements & Quantative Analysis of Facial Aesthetics"



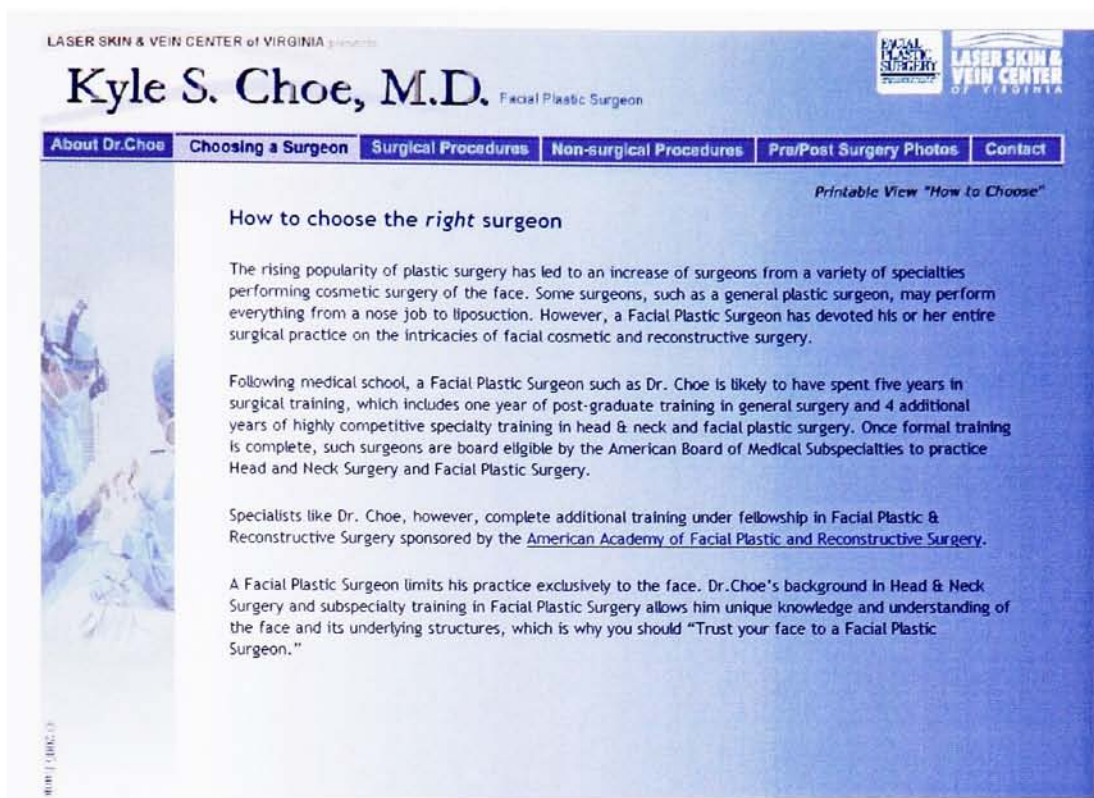
Facial Plastic Surgery, March /April 2003

"Revision Rhinoplasty"
"Reduction Structural Rhinoplasty"

[Figure 3] "Publications & Presentations" page within "About Dr.Choe" of HTML website; This is what the Web user (viewer) sees upon entering the page. He/she has to scroll down the sidebar of the Web browser to see the entire page.

c. "Choosing a Surgeon"

Although this website is focused on introducing one particular surgeon (Dr. Choe), he wanted to provide the viewers an objective guide as to the factors that should be considered in choosing a surgeon. Also, the Client wanted the link to the "American Academy of Facial Plastic and Reconstructive Surgery" website (www.aafprs.org) on this page. No image was necessary for this section (as shown in *Figure 4*).

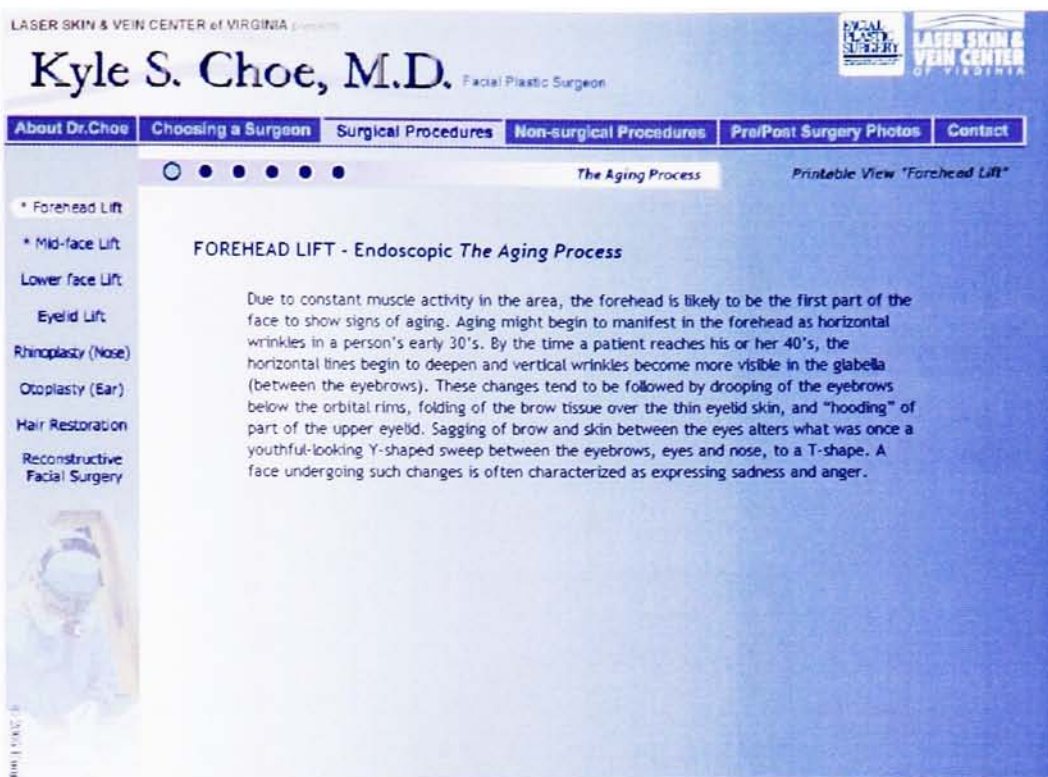


[Figure 4] "Choosing a Surgeon" page of HTML website

d. "Surgical Procedures"

There were eight facial plastic surgeries that the Client wanted to explain to the viewers/prospective patients through the website. Each surgical procedure was to have 6 sub-sections; "The Aging Process ("The Surgery of the Nose/Ear" for 5th and 6th surgical procedures)", "Are You a Candidate?", "Understanding the Surgery", "What to Expect After the Surgery", "Frequently Asked Questions" and "Pre/Post Surgery Photos".

The order of the surgical procedures and their sub-sections were decided by the Client. Also, the Client wanted to take the viewer directly into the first surgical procedure ("Forehead Lift") upon their entering the "Surgical Procedures" section.



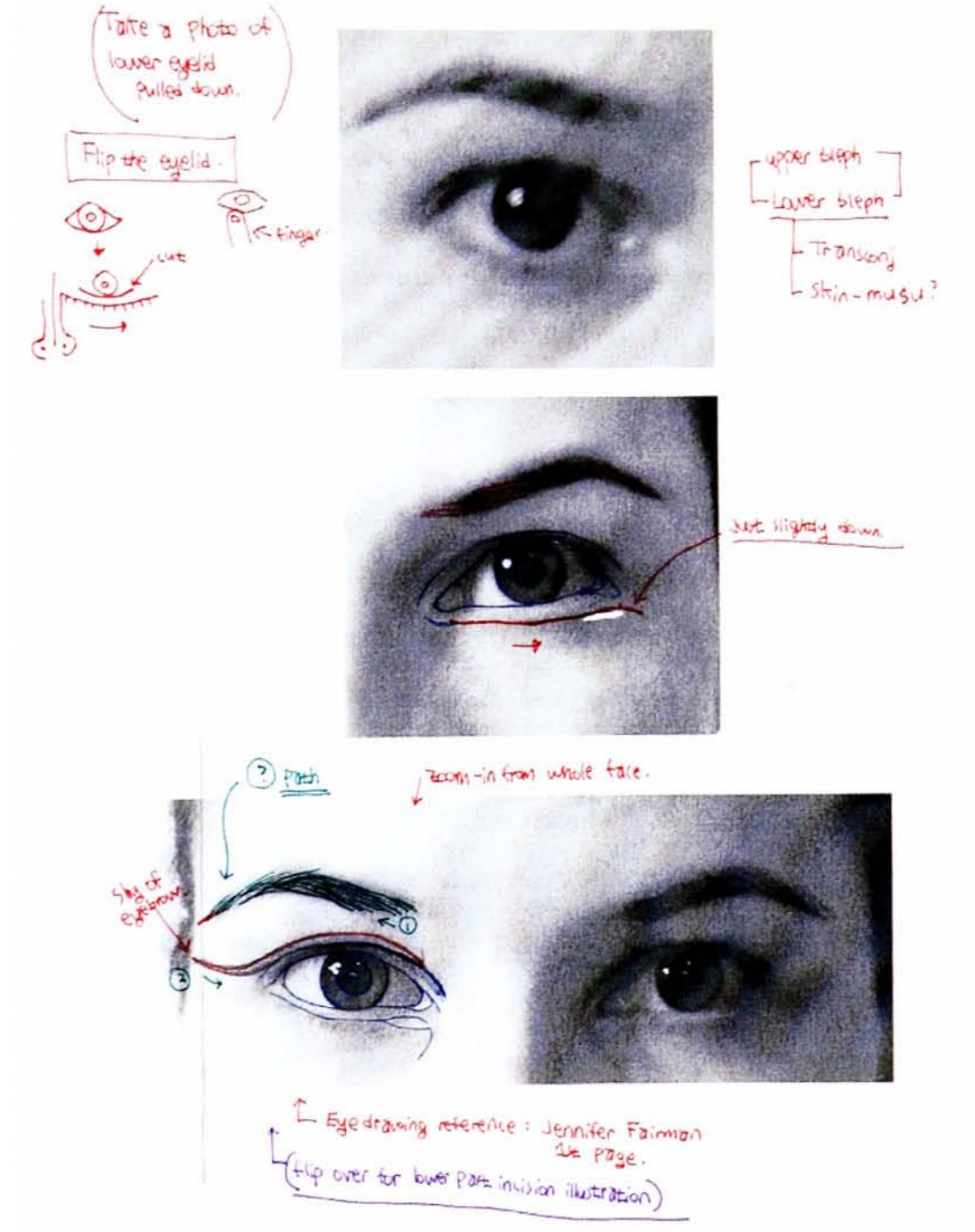
[Figure 5] “The Aging Process” page within “Forehead Lift” section under “Surgical Procedures” of HTML website; This is the page that the Web user (viewer) sees upon entering the “Forehead Life” section.

d-1. Medical Illustrations

The Medical Illustrations explaining the incision lines were to be included in each surgery’s “Understanding the Surgery” page.

The Client did not want to explain surgical procedures in graphic detail to the visitors of the website, but indicate where on the face the incisions would be made. In order to better understand the location of the incisions, the Illustrator took pictures of a female person’s head in anterior, anterior-oblique, lateral, and posterior views to obtain the photographic references. The Illustrator printed out the photographs and took them to the Client. The Client drew the incision lines on the photographs, and the Illustrator

could use that as a guide in creating illustrations (See Figure 6). The Flash animation was going to clearly explain the path of each incision.



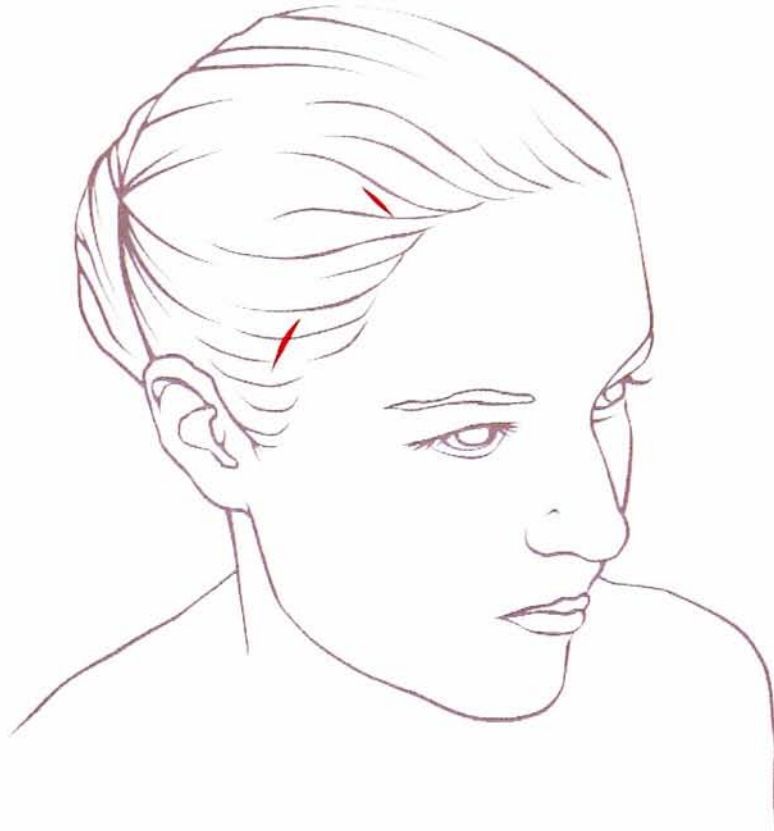
[Figure 6] Sample of one of the “sketches on the photograph” during a discussion

The Client requested that the Illustrator create “clean, simple and sophisticated” illustrations for the website. He felt that using the full range of color for the illustrations was unnecessary. Upon that request, the Illustrator chose to do the “Pen-and-Ink Effect Illustration using Adobe Illustrator” technique introduced by Professor James Perkins⁶.

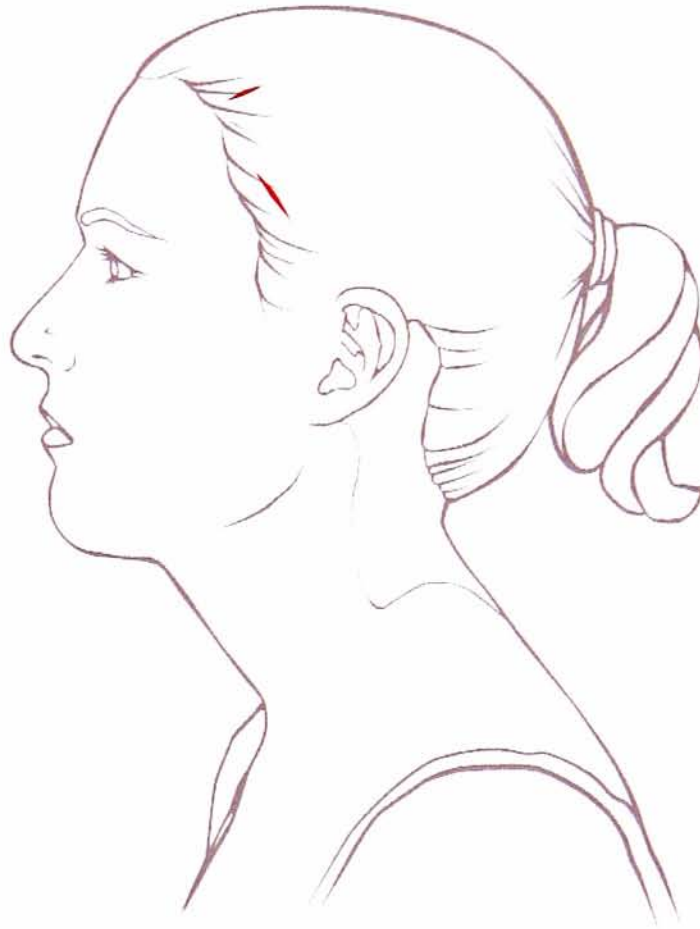
The Illustrator used the prints of the photographs that had Dr. Choe’s indications of the incision lines for reference. She made separate sketches that resembled the contour lines of the photograph. Then, the sketches were scanned into the computer to be traced in Adobe Illustrator. The files created in Adobe Illustrator were to be exported as GIF, JPG or PNG files for HTML version of the website⁷, and SWF files for the Flash version.

To achieve the soft look of the illustrations, 80% to 90% of Black instead of 100% Black was used for the color of the lines. The incision lines were colored in slightly dark red to have them distinct against the rest of the artwork.

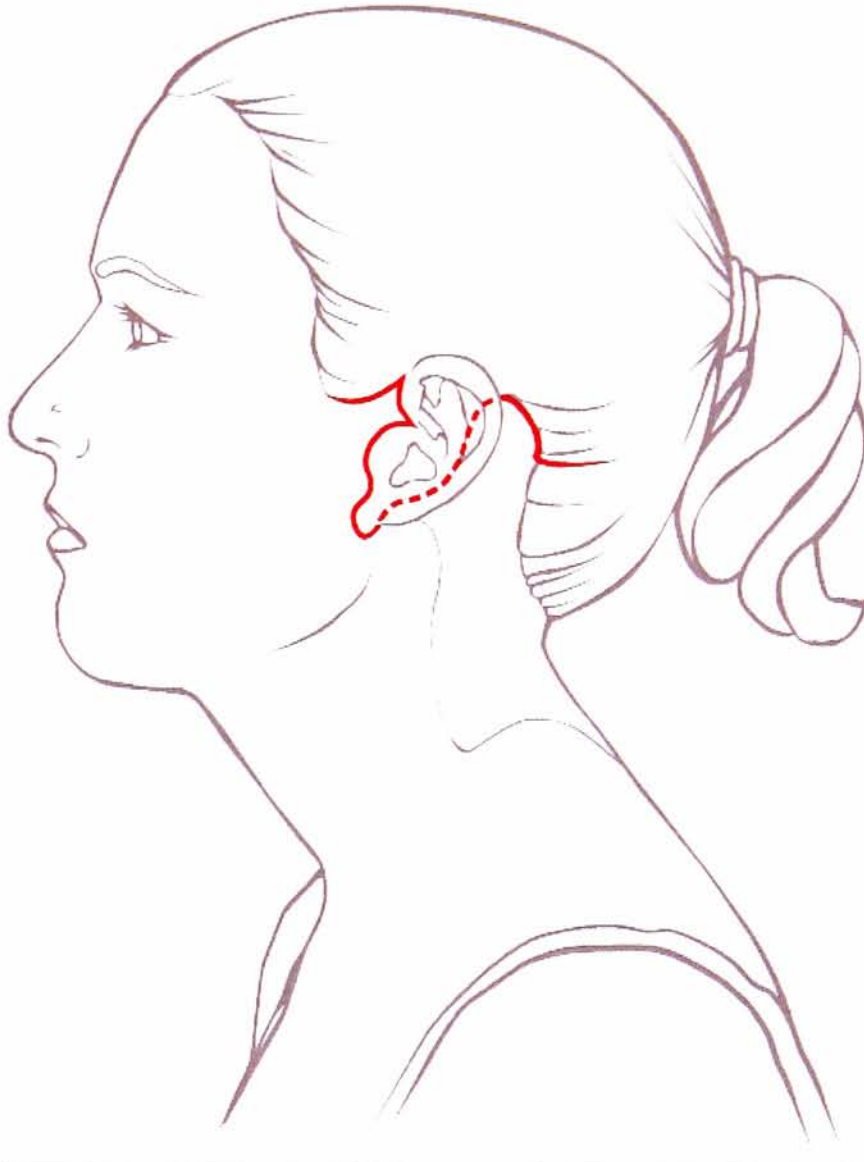
The incision lines of “Forehead Lift” and “Mid-face Lift” were identical. The Illustrator used the anterior-oblique view (*Figure 7-1*) and lateral view (*Figure 7-2*) to show the location of the incisions. For “Lower face Lift”, the lateral view (*Figure 8-1*) and the posterior view (*Figure 8-2*) were chosen to show the incision lines. For “Eyelid Lift”, the anterior view was used twice to show the “Upper Eyelid Lift” (*Figure 9-1*) and the “Lower Eyelid Lift” (*Figure 9-2*). For “Rhinoplasty”, the anterior view of the face with the “chin lifted up” position was chosen as the best view to show the incision inside the nose (*Figure 10*). Lastly, for Otoplasty, the posterior view of the head was chosen for the illustration (*Figure 11*). The choice of the views is directed by the Client. The path of the incisions was difficult to explain in static images (See *Figure 12*), but it was communicable when created in animation.



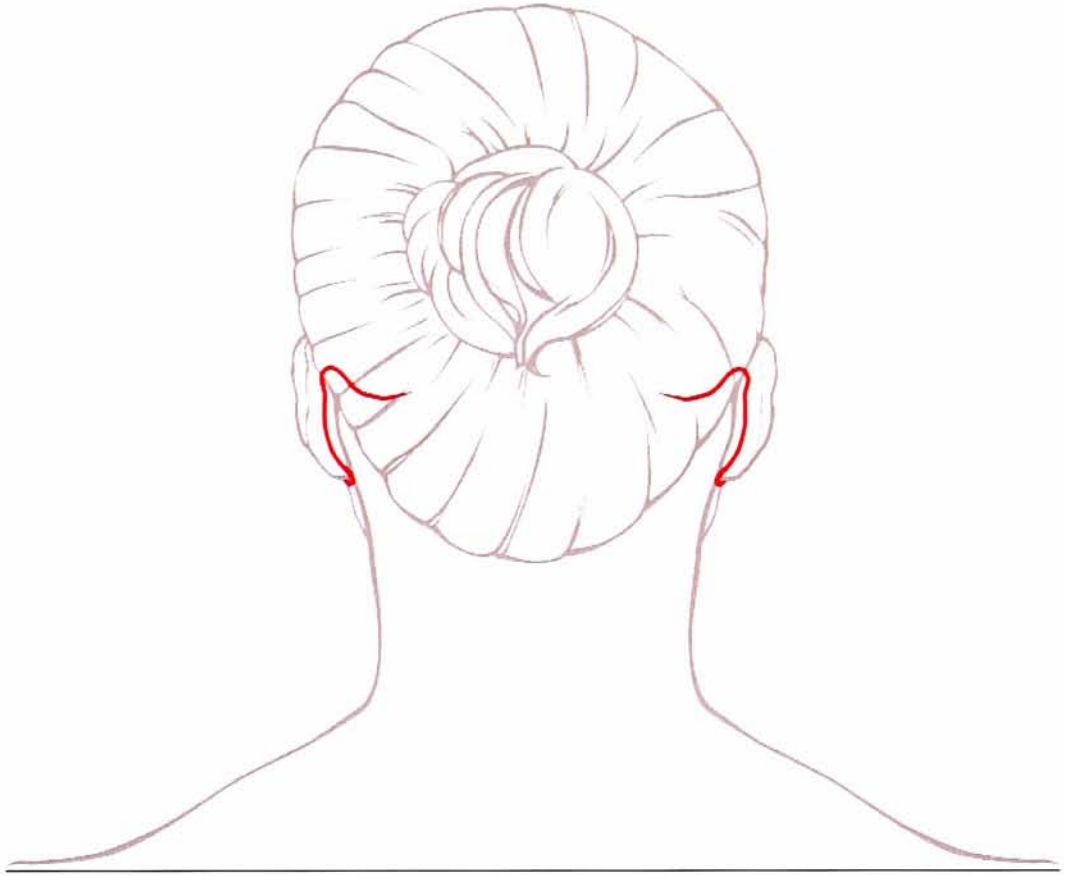
[Figure 7-1] Incision Sites for Forehead & Mid-face Lift; Anterior-Oblique View



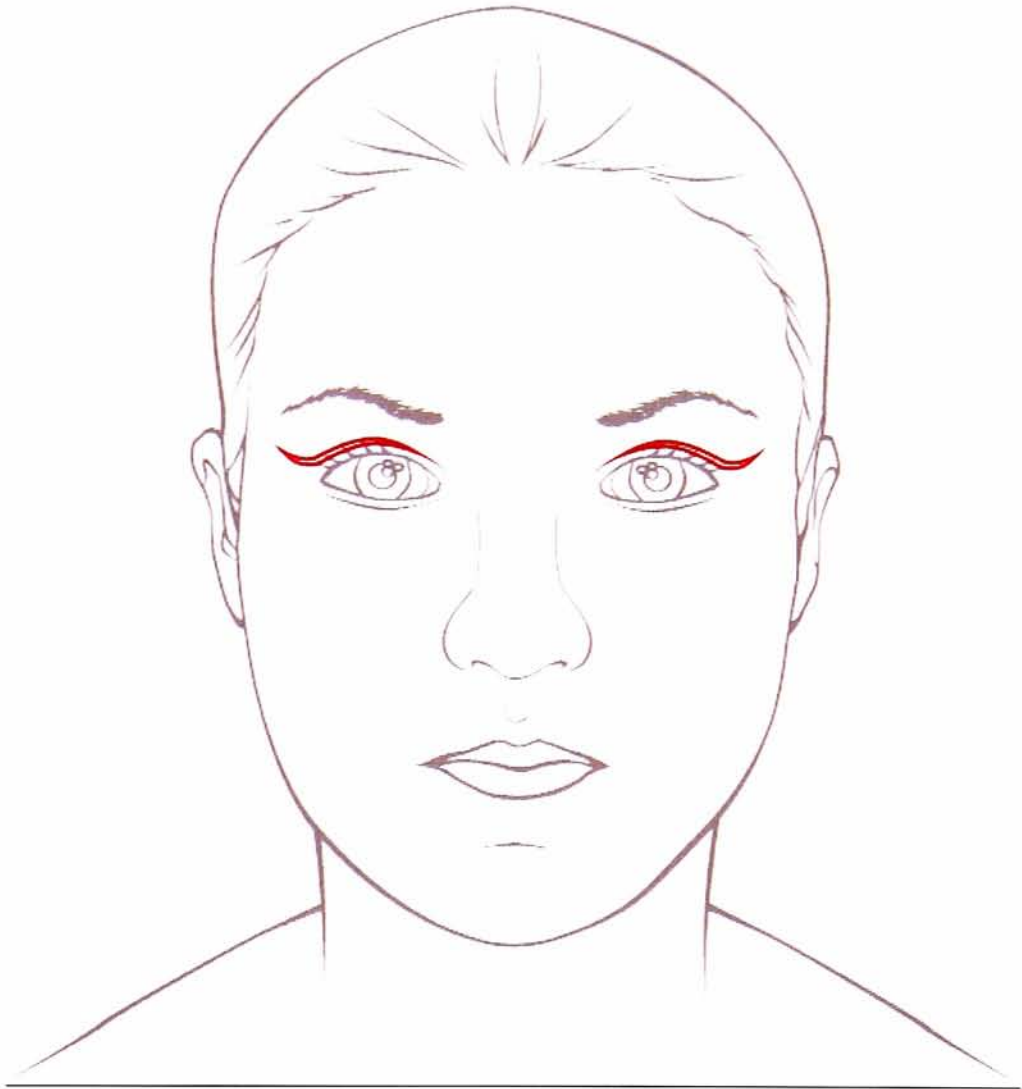
[Figure 7-2] Incision Sites for Forehead & Mid-face Lift; Lateral View



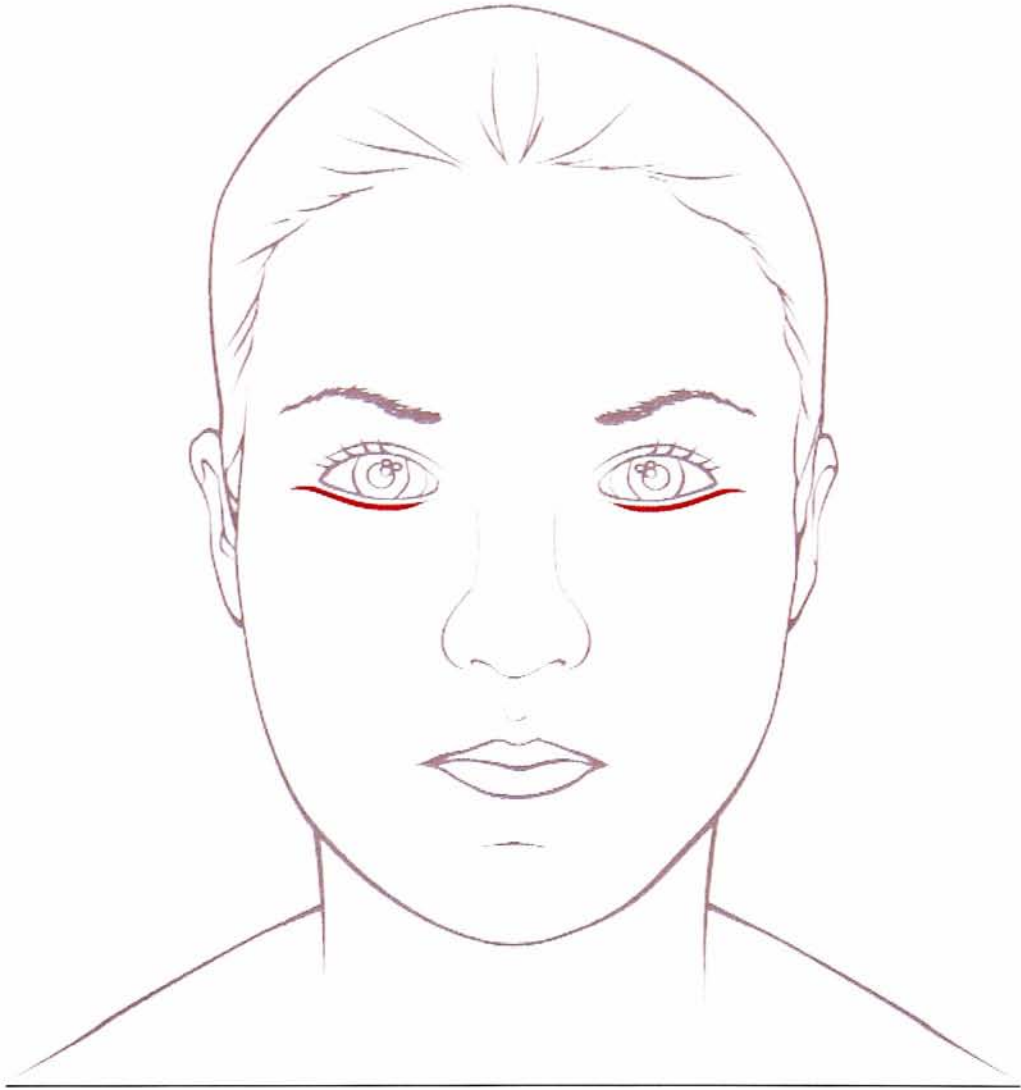
[Figure 8-1] Incision Sites for Lower face Lift; Lateral View



[Figure 8-2] Incision Sites for Lower face Lift; Posterior View



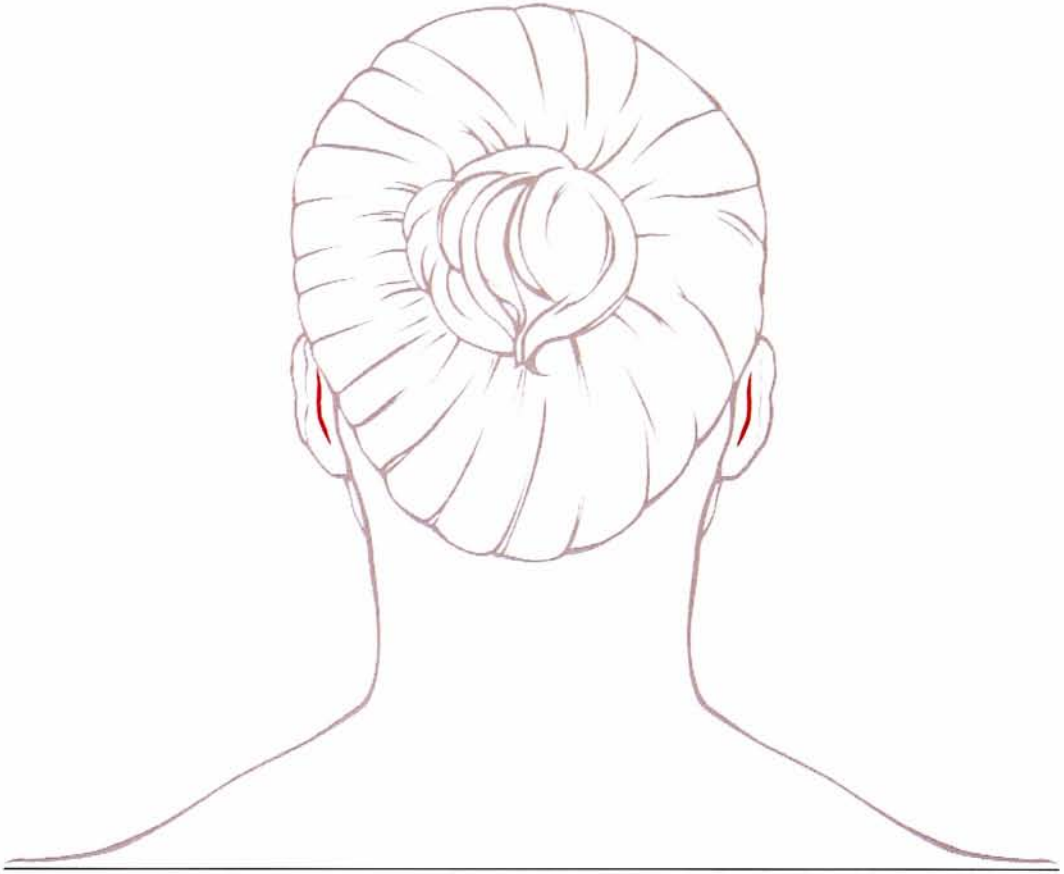
[Figure 9-1] Incision Sites for Upper Eyelid Lift; Anterior View



[Figure 9-2] Incision Sites for Lower Eyelid Lift; Anterior View



[Figure 10] Incision Sites for Rhinoplasty, Anterior (Chin-up) View



[Figure 11] Incision Sites for Otoplasty; Posterior View

* Forehead Lift

* Mid-face Lift

Lower face Lift

Eyelid Lift

Rhinoplasty (Nose)

Otoplasty (Ear)

Hair Restoration

Reconstructive
Facial Surgery

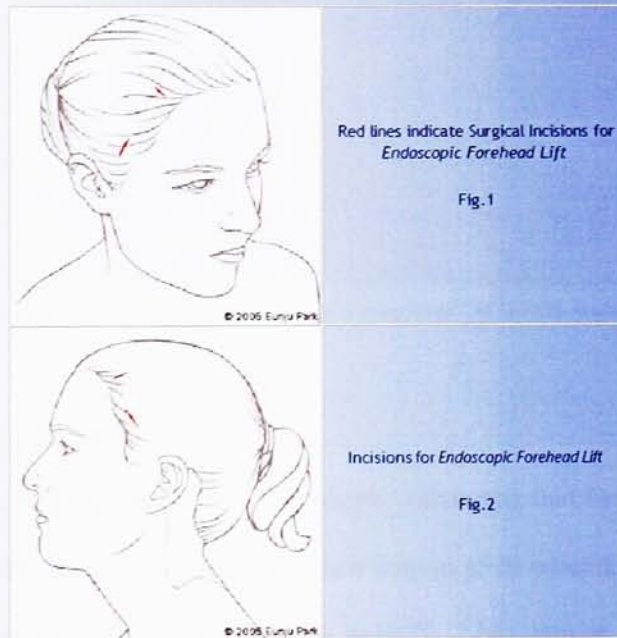
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 Eurus Park
 E

FOREHEAD LIFT - Endoscopic *Understanding the Surgery*

Endoscopic forehead lift has revolutionized how facial plastic surgeons approach upper face rejuvenation. Using highly precise instruments like telescopes, cameras and delicate instruments, Dr. Choe is able to visualize and elevate the forehead and eyebrows to a more natural and youthful position through small incisions in the hairline. Furthermore, the forehead muscles responsible for wrinkles and furrows are cut and weakened resulting in smoother skin. This innovative technique offers minimal or no scarring, less bleeding, no hair loss, and a much quicker recovery when compared to traditional techniques.

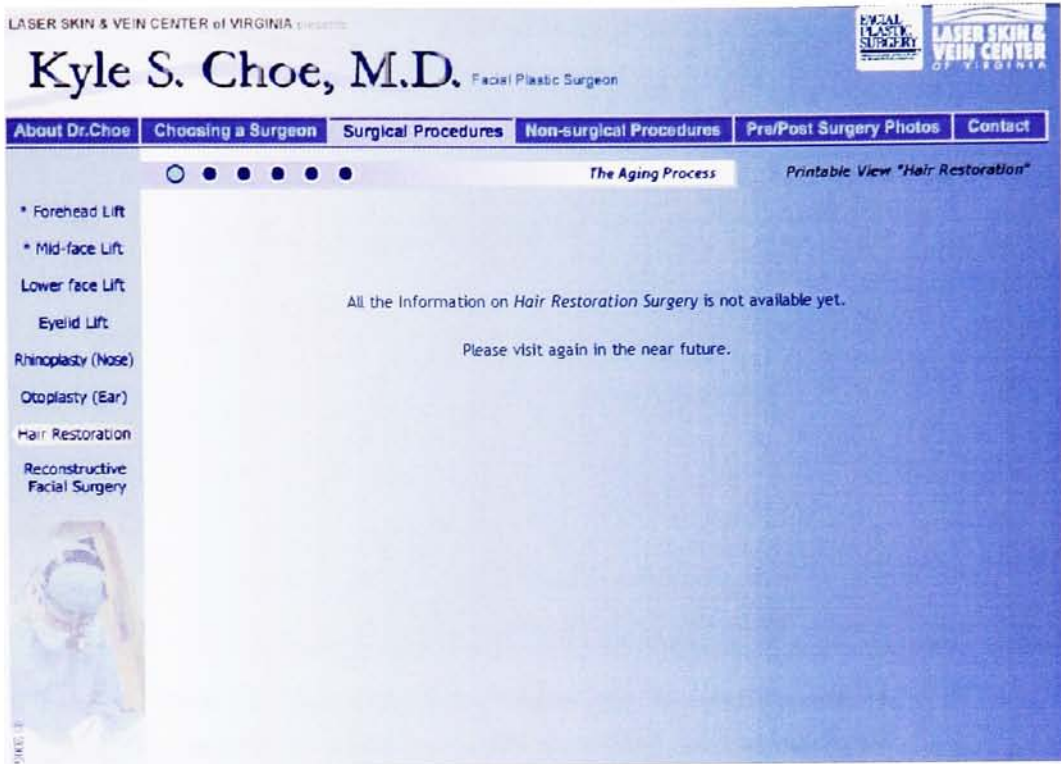
The surgery takes approximately an hour and a half. A local anesthesia is used with an intravenous sedation technique ("twilight state"), allowing you to return home on the same day.



[Figure 12] "Understanding the Surgery" page within "Forehead Lift" section under "Surgical Procedures" of HTML website.

The Client did not provide any information for the sections of "Hair Restoration" and "Reconstructive Facial Surgery". He requested that those two sections

have a message saying that the information on their surgical procedures was not available (as shown in *Figure 13*).



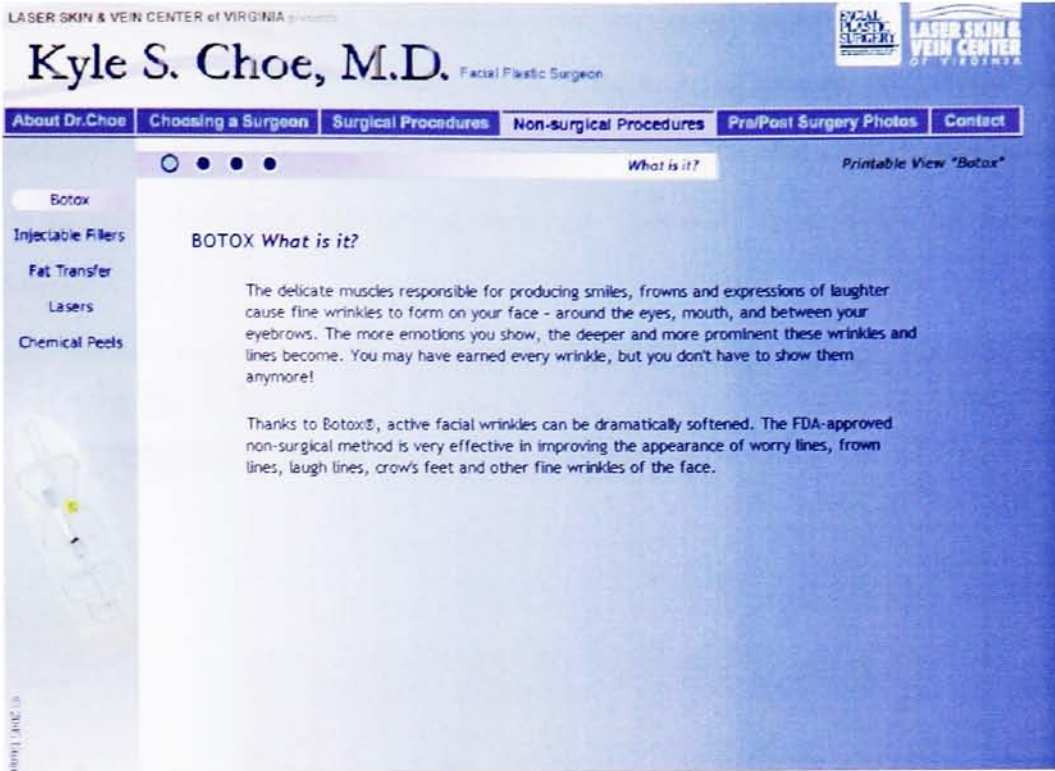
[Figure 13] “Hair Restoration” section under “Surgical Procedures” of HTML website

e. “Non-Surgical Procedures”

There were five non-surgical facial plastic treatments that Dr. Choe wanted to explain to the viewers/prospective patients. Each non-surgical procedure was to have 4 sub-sections; “What is it?”, “How does it work?”, “Are you a candidate?” and “Frequently Asked Questions”.

The order of the surgical procedures and their sub-sections was decided by the Client. Also, the Client wanted to take the viewer directly into the first non-surgical procedure (“Botox”) upon his/her entering the “Non-Surgical Procedures” section.

No medical illustrations were needed for this category.

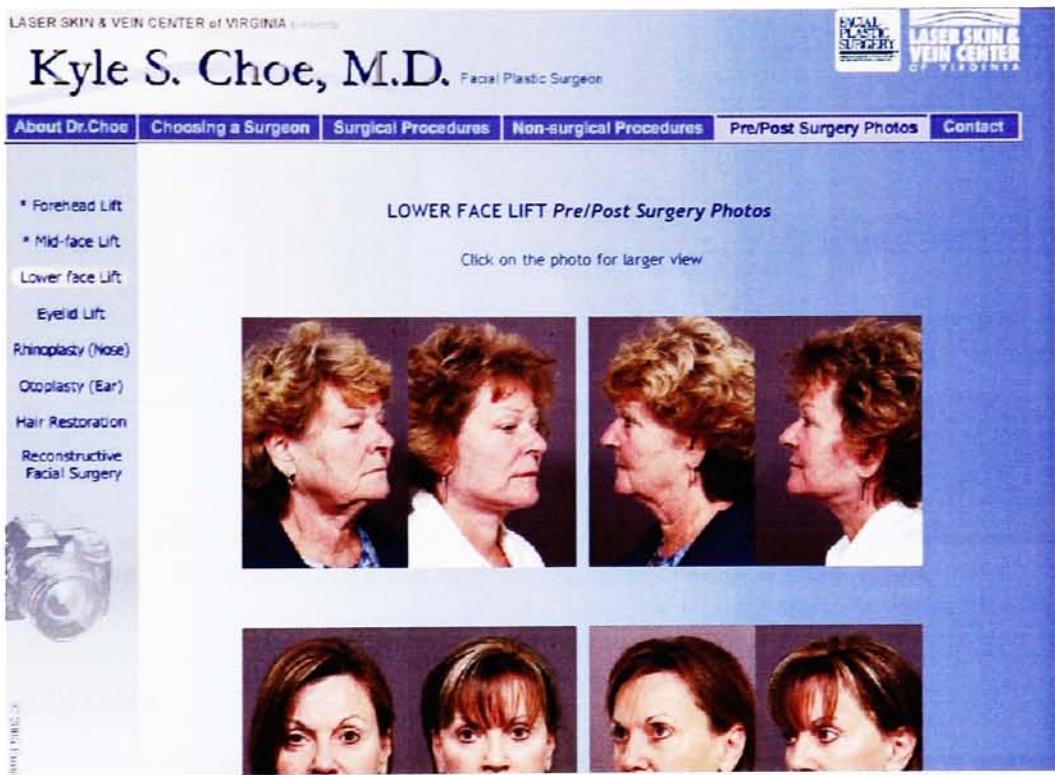


[Figure 14] “What is it?” page within “Botox” section under “Non-surgical Procedures” of HTML website; This is the page that the Web user (viewer) sees upon entering the “Botox” section.

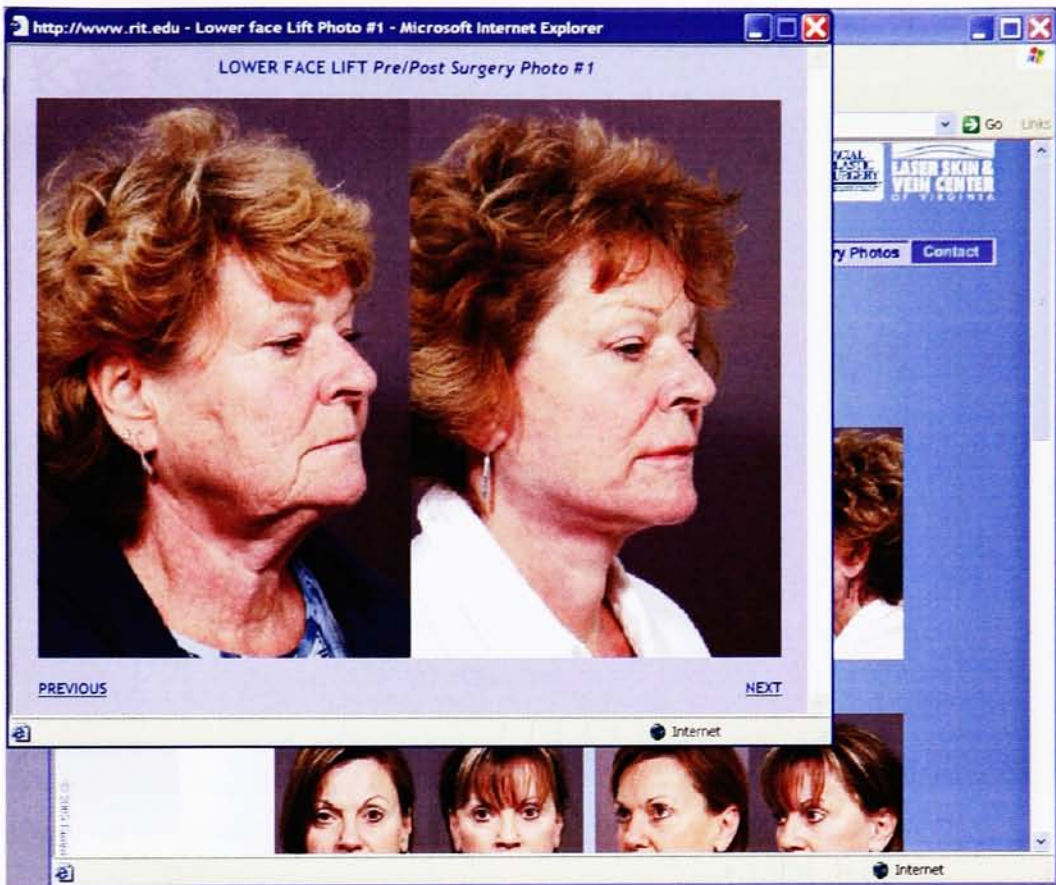
f. “Pre/Post Surgery Photos”

The category under this section is identical to that of “Surgical Procedures”. The Client provided the Illustrator with a lot of digital photographs of his former patients (with their consent), on whom he performed the surgeries. No color corrections or modifications of the photographs were made, in order to preserve the authenticity. The only problem was that, by trying to fit as many preoperative and postoperative photographs as possible in each page, all the images had to be small in size (See *Figure 15-1*). To solve the problem, the Illustrator built a separate *pop-up window* that contained the enlarged version of the photographs size (See *Figure 15-2*), and had them

appear when the small image was selected. Also, the *pop-up window* was built in a way that the viewer didn't have to click on each small set of photographs to view the enlarged version, but he/she could stay on the *pop-up window* and view all the pictures of the particular surgery by clicking "next" or "previous" button within the pop-up window.



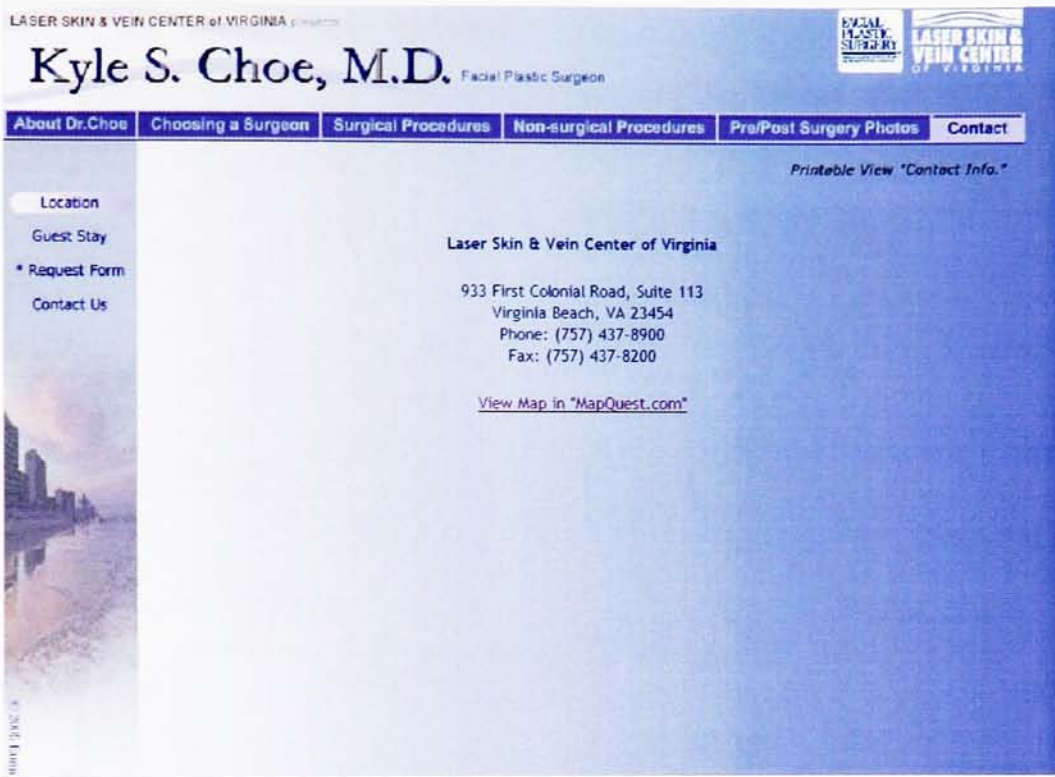
[Figure 15-1] "Lower face Lift" page under "Pre/Post Surgery Photos" of HTML website



[Figure 15-2] *Pop-up Window* of photos from “Pre/Post Surgery Photos” of HTML website

g. “Contact”

In addition to listing all the information that would allow the viewer to contact the Client, the Illustrator made a link to www.mapquest.com for the viewers’ convenience in looking up Dr. Choe’s geographical location on the map as well as obtaining the driving direction to his office.

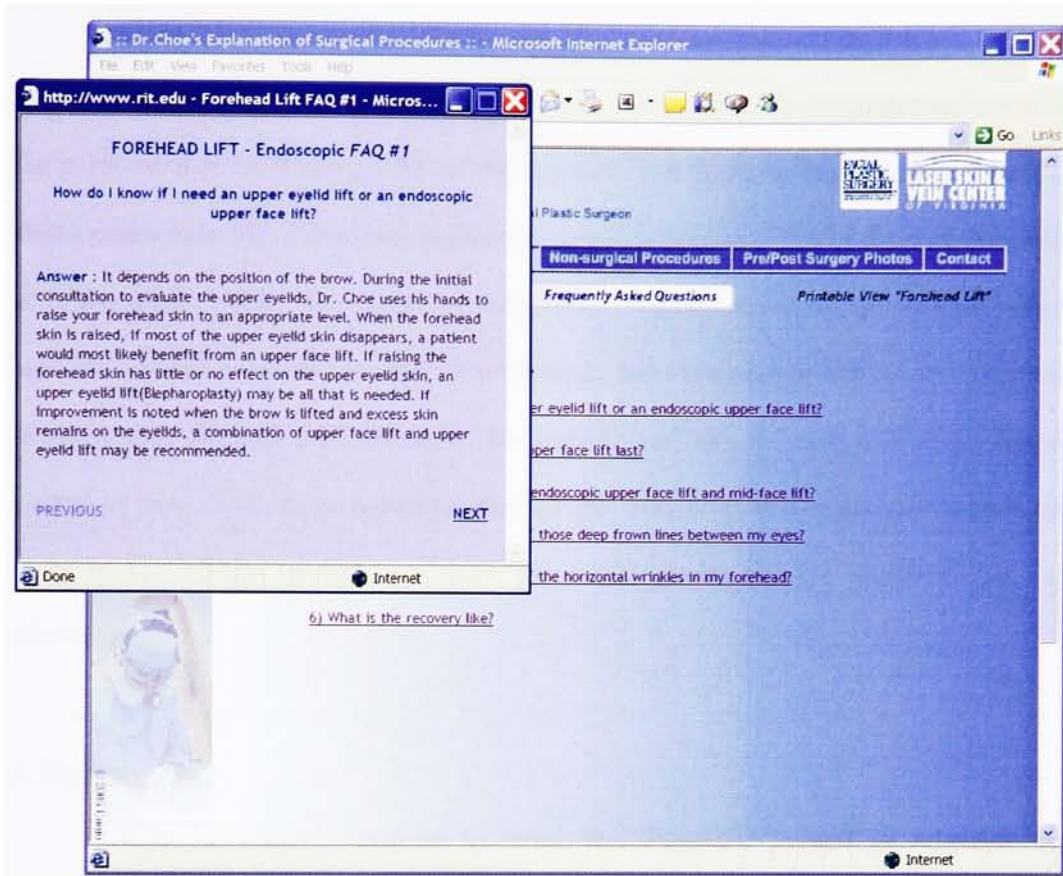


[Figure 16] “Location” page within “Contact” of HTML website; This is the page that the Web user (viewer) sees upon clicking on “Contact” button from the main menu.

3. Problems & Solutions

There is “Frequently Asked Questions (FAQ)” section under each procedure of “Surgical Procedures” and “Non-surgical Procedures”. Originally, the Illustrator designed these “FAQ” pages in a way that, on click of each question, a new pop-up window with the answer to the question would show up. The committee suggested assembling all the answers in one pop-up window, so the viewer could stay on it and go through all the questions without having to click on each question separately. The suggestion was accepted by the Illustrator, and the modification to “Frequently Asked Questions” pages of “Forehead Lift”, “Mid-face Lift”, “Lower face Lift”, “Eyelid Lift”, “Rhinoplasty(Nose)”, “Otoplasty(Ear)”, “Botox”, “Injectable Fillers”, “Fat Transfer”,

“Lasers” and “Chemical Peels” was made.



[Figure 17] “Frequently Asked Questions” page under “Forehead Lift” of “Surgical Procedures” in HTML website. On click of a question, the *pop-up window* (on the left) appears. Once this *pop-up window* is on the screen, the user can browse through answers to each question by clicking on “Next” or “Previous” button inside the *pop-up window*.

- **Flash Website Production**

Once the HTML website production was completed, the Illustrator moved onto the production of the Flash version of the website. Even from the beginning of the entire thesis production, the Client was highly interested in the capability of the websites built in Macromedia Flash. The Client firmly believed that, by providing the viewers with a website that had moderate amount of animations, the viewers would be more interested in navigating through the contents of the website and stay on each section for longer period of time. The client requested that all the categories of the website remain the same as the HTML version, and keep the similar design for the interface, but, not identical.

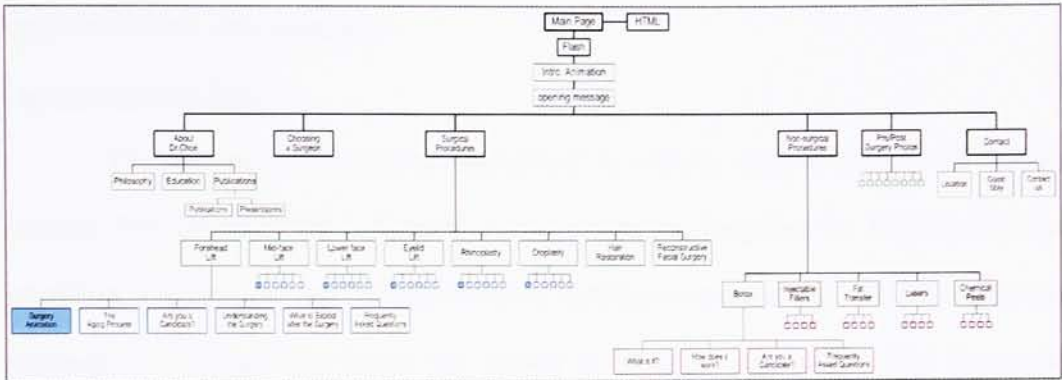
1. Design

With the Client's requests in mind, the Illustrator needed to approach the production of the Flash website in a different way than the HTML website. Because every component of the website had the ability of being mobile, there was more flexibility to being creative with the design, but, the most important thing was that the navigation system of the website should remain obvious and clear.

a. Hierarchical Map

Since the categories of the website were to stay the same as the HTML version, the Hierarchical Map (See *Figure 18*) did not need to change much. But, with the capability of animation, the Illustrator felt the need to expand the aesthetic aspect of the transitions between the pages. For example, as soon as the viewer chooses the Flash version of the website, it would open with a short introductory animation that prepares

the viewer to be ready to engage in navigating through contents of the website. This kind of additional animation elements was added to the hierarchical map of the Flash website.



[Figure 18] Hierarchical Map(layout structure) of Flash website.

*Due to limitation of space, repeated sets are indicated by color of the boxes. For example, a set of category under “Forehead Lift” is repeated for Mid-face Lift, Lower face Lift, and so on.

b. Layout Design

b-1. Color

For the consistency between the HTML and Flash version of the websites, the Illustrator chose similar palette of colors for the components of the website; the hue of light blue.

b-2. Size

The Illustrator applied the same considerations that she had for the size of the HTML website in deciding the size of the Flash website. The chosen size for the Flash website interface is 760x520 pixels (72 ppi).

2. Contents

To achieve the “clean, soft and sophisticated” atmosphere that the Client wanted for the website, the Illustrator created all the animation components to be unhurried and smooth in transitions. There was more control of space since the contents could be moved with animation.

a. Introductory Page

The opening “Introductory Animation” is critical, since it attracts the viewer initially. The length of the animation should not be too long that the viewers become impatient and leave the site, yet not too short that the contents of the website appear too suddenly or unexpectedly before the viewer is ready for navigation. The Illustrator created the animation with the concept of making the components appear one by one from the background – in the order of the most important to the least important - to help the viewers’ understanding of the hierarchy of the contents.



[Figure 19] A screen shot from the Introductory Animation of Flash website. This animation is what the viewer first sees on entering “Flash Version” from Dr.Choe’s homepage.

b. “About Dr.Choe”

In introducing himself to the viewers, the Client desired to have this category divided into three parts just like the HTML version.

b-1. Philosophy

This is a simple section with only the animation of the text.

b-2. Education

This section is similar to “Philosophy” – the only content is the animated text.

b-3. Publication

Upon clicking into “Publication” page, a viewer actually gets a choice of two different sections – “Publications” and “Presentations”. With such division into two

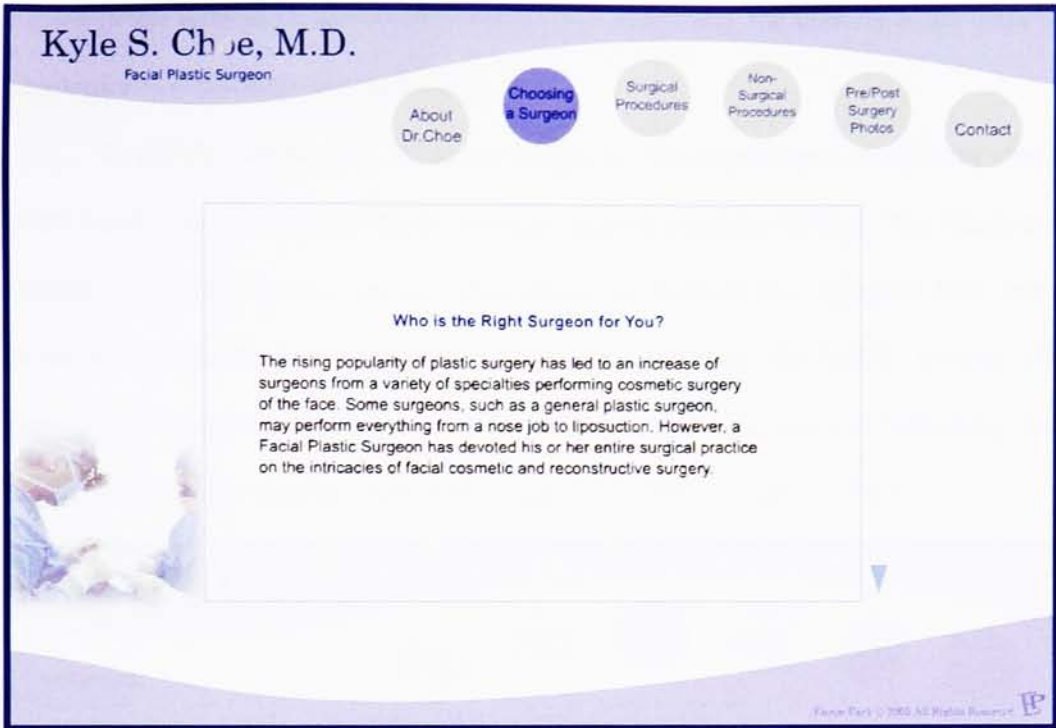
separate categories, the design and the navigation of this section became simple and clear. In “Publications”, the introduction of each publication done by Dr. Choe is shown one at a time on the screen. The “Presentations” section contains the list of his previous presentations in the form of the animated text.



[Figure 20] “Philosophy” page under “About Dr.Choe” of Flash website

c. “Choosing a Surgeon”

This is a simple section of just the animated text as well.



[Figure 21] “Choosing a Surgeon (Who is the right surgeon for you?)” of Flash website

d. “Surgical Procedures” (Medical Illustration)

Just like the HTML version of the website, this section contains the most information of all the main menus. A surgical procedure is divided into “The Aging Process (or “Surgery of the Nose/Ear” for Rhinoplasty/Otoplasty)”, “Are you a Candidate?”, “Understanding the Surgery”, “What to Expect After Surgery”, “Frequently Asked Questions”, and, finally, “Surgery Animation”. All the text are designed and controlled in the same way as the text in other main menus.

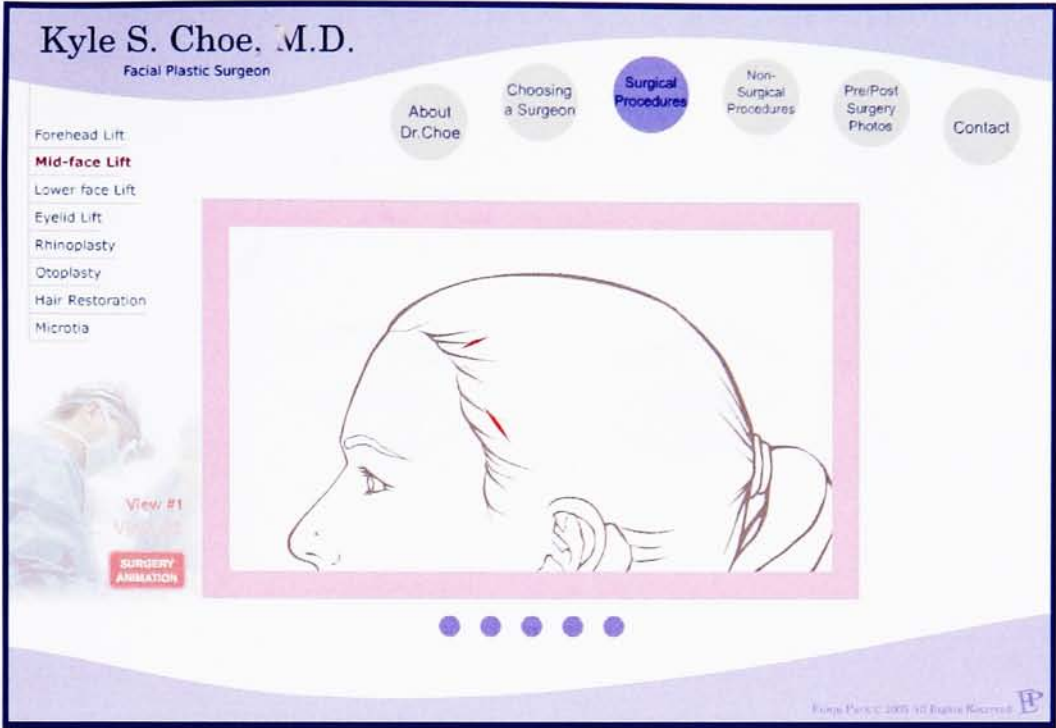
For “Surgery Animation”, the Illustrator used the Adobe Illustrator™ files (.ai) of the medical illustrations that she had created previously. The AI files were exported to SWF format and brought into the Flash movie to enable editing of the illustration for animation. They are the same files that were exported to JPG format for the HTML

version of the website. After the animations were completed, the viewers could learn in which direction the incisions were made.

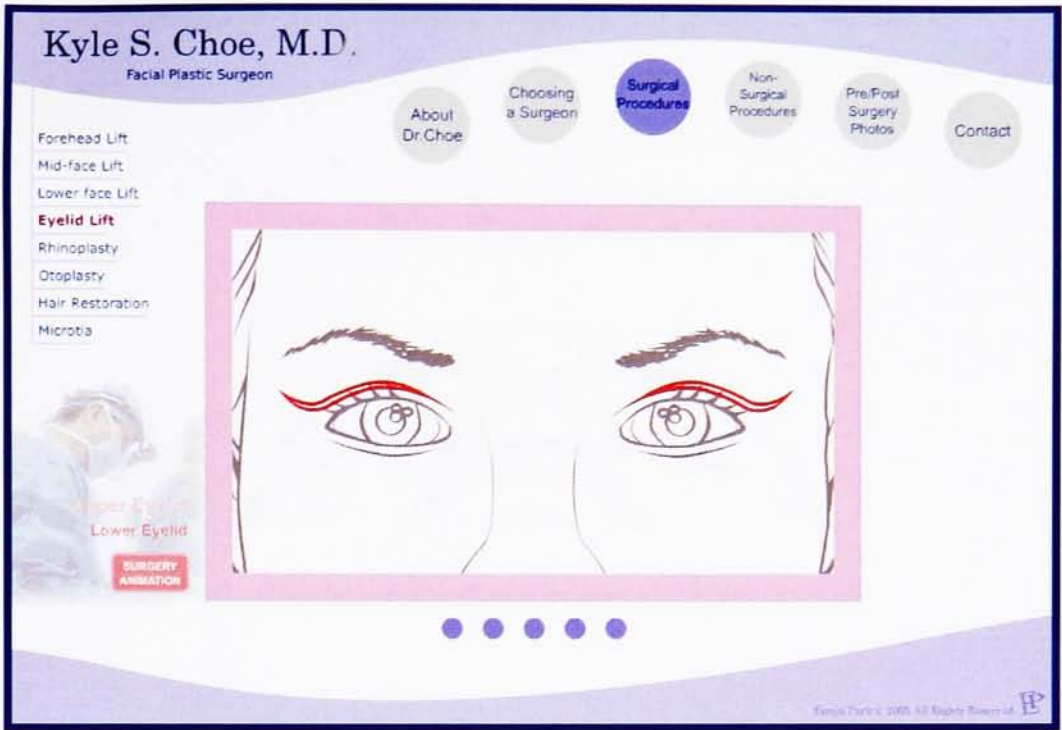
In HTML website, the Illustrator simply put the illustrations of different views of the head with red incision marks on each surgical procedure's page. The Illustrator thought of putting arrows on the illustrations to indicate the direction that those incisions were made, but she found it distracting. So, from the HTML website, the viewer could not learn the direction of the incisions, therefore, this was something that Flash version of the website could achieve and the HTML version couldn't.



[Figure 22-1] A screen shot from the “Surgery Animation” of “Forehead Lift” under “Surgical Procedures” in Flash website. This is one of the two views (Anterior-Oblique View & Lateral View) that show the paths of the incisions.



[Figure 22-2] A screen shot from the “Surgery Animation” of “Mid-face Lift” under “Surgical Procedures” in Flash website. This is one of the two views (Anterior-Oblique View & Lateral View) that show the paths of the incisions.



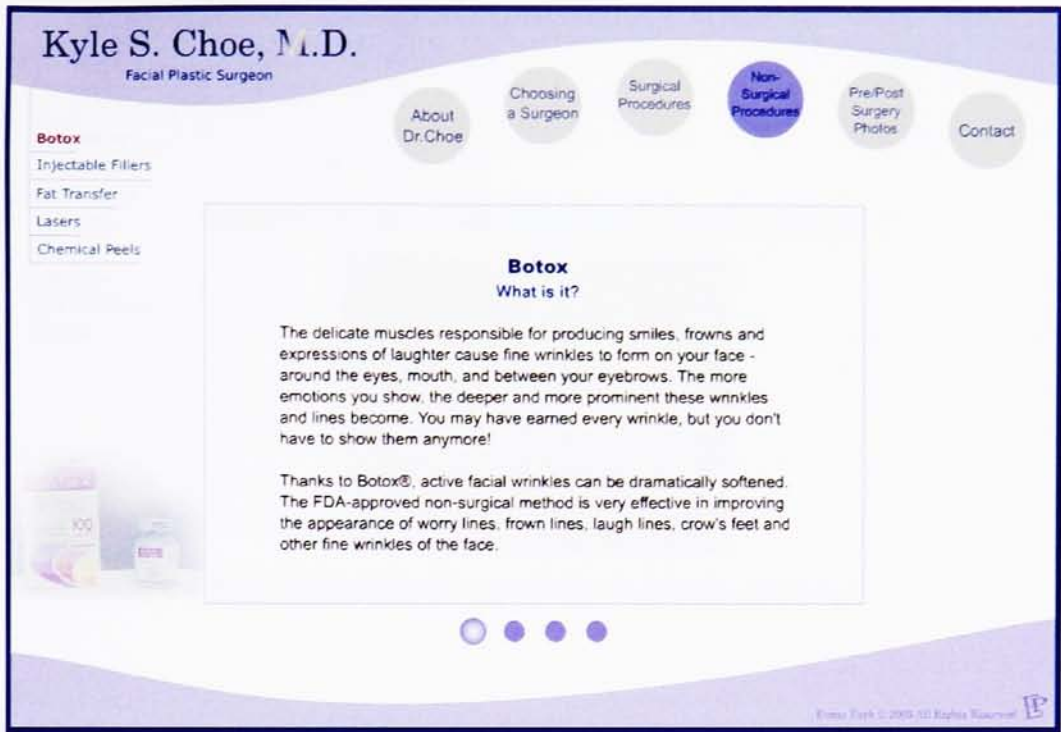
[Figure 22-3] A screen shot from the “Upper Eyelid Lift” animation in “Eyelid Lift” under “Surgical Procedures” in Flash website



[Figure 22-4] A screen shot from the Surgery Animation of “Rhinoplasty” under “Surgical Procedures” in Flash website

e. “Non-Surgical Procedures”

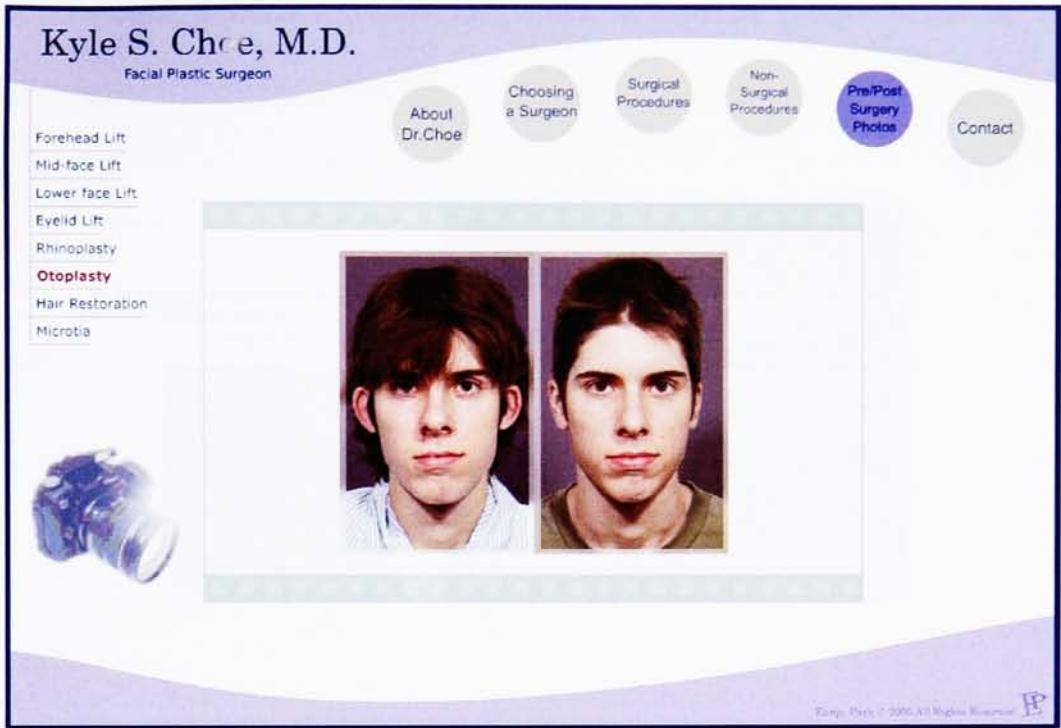
This section holds five categories; “Botox”, “Injectable Fillers”, “Fat Transfer”, “Lasers” and “Chemical Peels”. Each category has sub-menus of; “What is it?”, “How does it work?”, “Are you a Candidate?” and “Frequently Asked Questions”. All the contents were designed and controlled in the same manner as “Surgical Procedures” for HTML or Flash version.



[Figure 25] “What is it?” page within “Botox” section under “Non-surgical Procedures” of Flash website; The Web user (viewer) is taken directly to this page upon entering the “Botox” section.

f. “Pre/Post Surgery Photos”

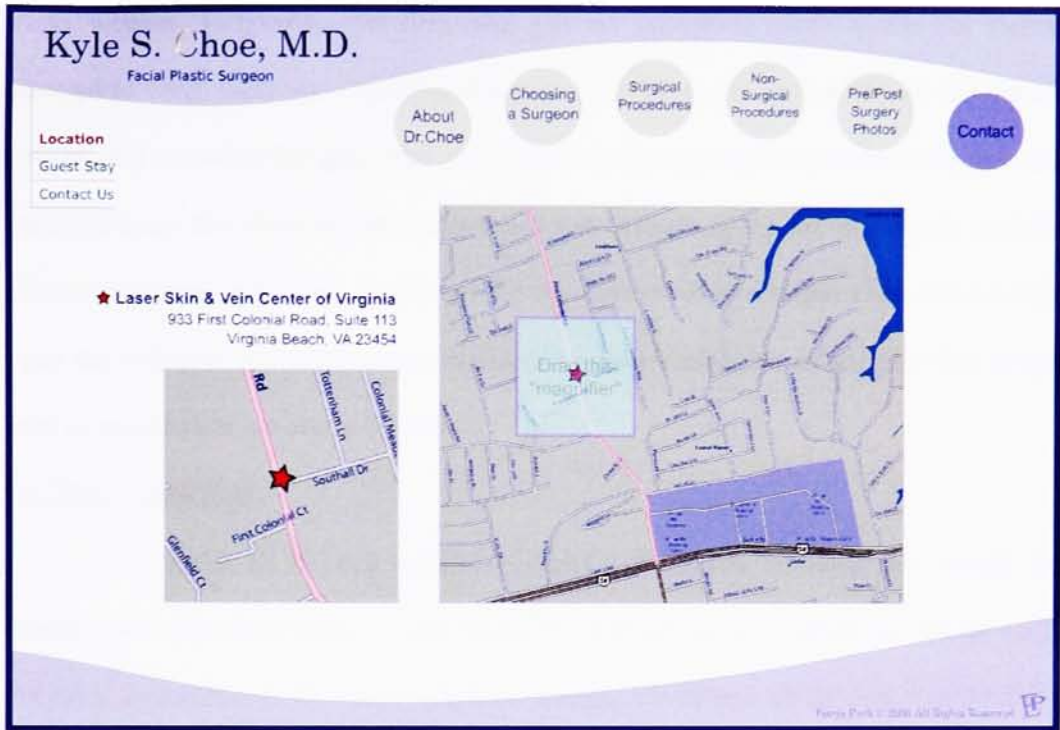
Instead of displaying the “before & after” photographs side to side in static form, the sets of photographs were animated in their appearance.



[Figure 26] “Otoplasty” page under “Pre/Post Surgery Photos” of Flash website

g. “Contact”

For the page on “Location”, the Illustrator wanted to create an interactive map that showed the location of where Dr. Choe’s practice would be. The Illustrator created the *magnifier* button that could be dragged with the mouse. As the mouse is dragged, a magnified view of the area inside the “magnifier” appears in a window to the left of the low scale map (See *Figure 27*). For “Guest Stay” and “Contact Us”, short text was placed under those pages.



[Figure 27] “Location” page under “Contact” of Flash website. This page contains an interactive map.

3. Problems & Solutions

a. Interface Design

The interface that is heavily loaded with text but without images makes the design less interesting to look at. This was the problem of the interface design for each section that was brought to attention. To solve the problem, the Illustrator included the photograph of Dr. Choe to be placed on the left side outside the text box for most of the sections. On clicking into each main menu, the image emerges on the left side and completes the interface design.

b. “Dot” buttons

The contents under the “Dot” buttons are the lowest category in hierarchy of the website. Therefore, the buttons are the smallest of all the buttons within the whole

Flash website. Originally, the Illustrator put no indication as to which dot button directed to what. Only upon entering the page by clicking on the dot button, the viewer was to find out what the page was about. During the meeting with the Committee, the inconvenience that these buttons may cause was brought up by the professors, and the Illustrator agreed with their comment. So, the buttons were modified in a fashion that upon the roll-over of the mouse on buttons, the abbreviated title of the page that it will lead to would show up above the button.

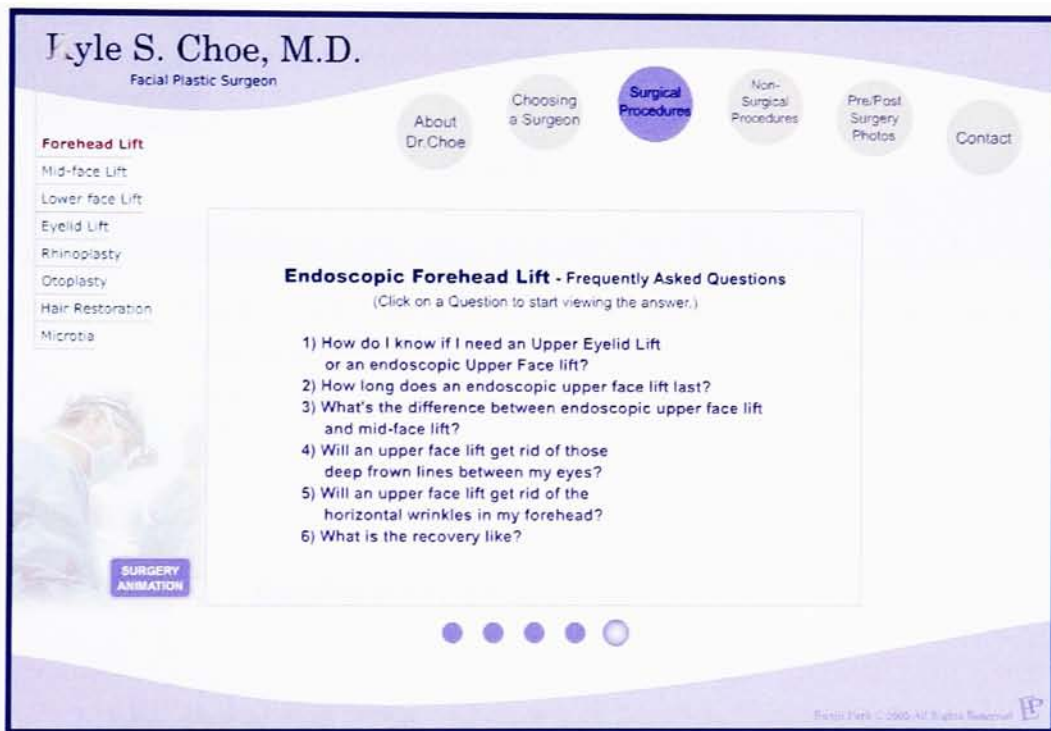
c. Text - Flush Left

Originally, all the text inside this Flash website was centered. But, during the meeting with the Committee, it was suggested that all the text should be “Flush Left” for the convenience of the viewers in their reading. To change all the text was not easy, because all the text was animated for the smooth transition from paragraph to paragraph. The Illustrator had made each paragraph into a *symbol* in the *library*, used two paragraphs for one *movieclip*, and then changed the percentage of *alpha* for fade-in and fade-out. When all the *movieclips* were completed, the Illustrator put them in the *scene*’s *Timeline*, and connected them with the “arrow” buttons to control the scroll of text. When the whole process was done, the result was that on the click of the “arrow” button to go to the next paragraph, the text that was inside the box on the screen would start moving up as it faded-out, followed by the paragraph that was below, fading-in. Therefore, to change all the text that was centered to “Flush Left” form required more than just changing the text’s alignment style.

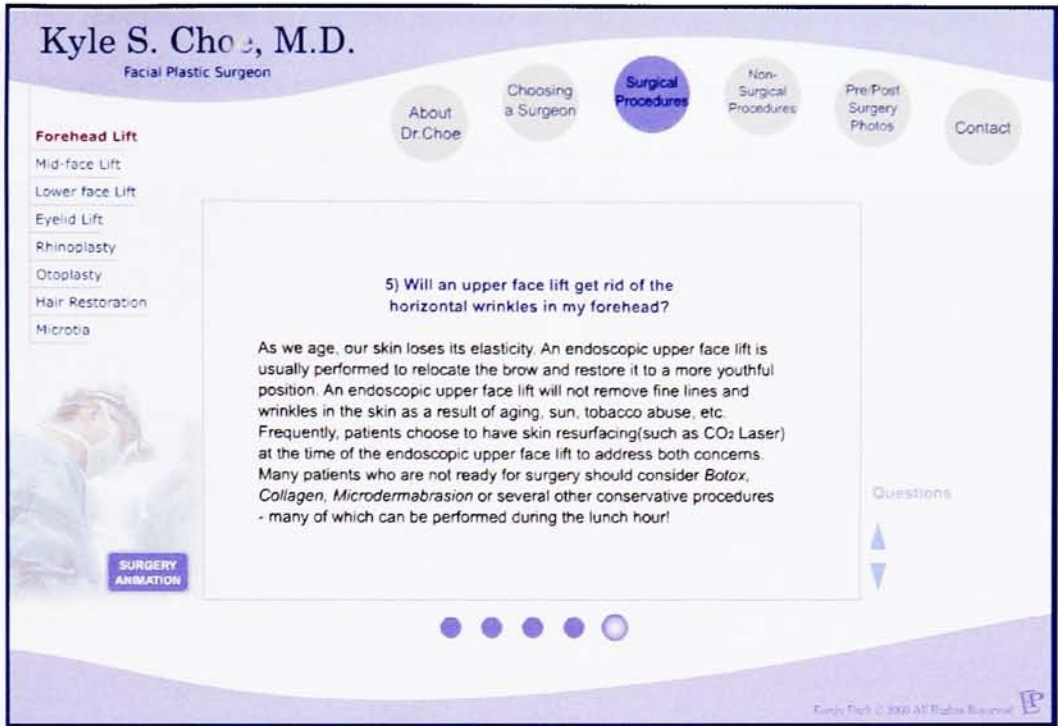
d. “Frequently Asked Questions”

There are “FAQs” in each procedure under “Surgical Procedures” and “Non-Surgical Procedures”. Originally, the Illustrator designed it so that each question and

answer is displayed one at a time on the screen. Upon the click of the “arrow” button, the viewer could view the next question and its answer. During the meeting with the Committee, a suggestion was made that this navigation system be changed, because not all the viewers would desire to go through all the questions. The Committee encouraged that the Illustrator modified the FAQ sites so that all the questions are viewable upon accessing the page, and choose the answer that the viewer desired to read. The change was made accordingly.



[Figure 28-1] “Frequently Asked Questions” page of “Forehead Lift” under “Surgical Procedures” of Flash website

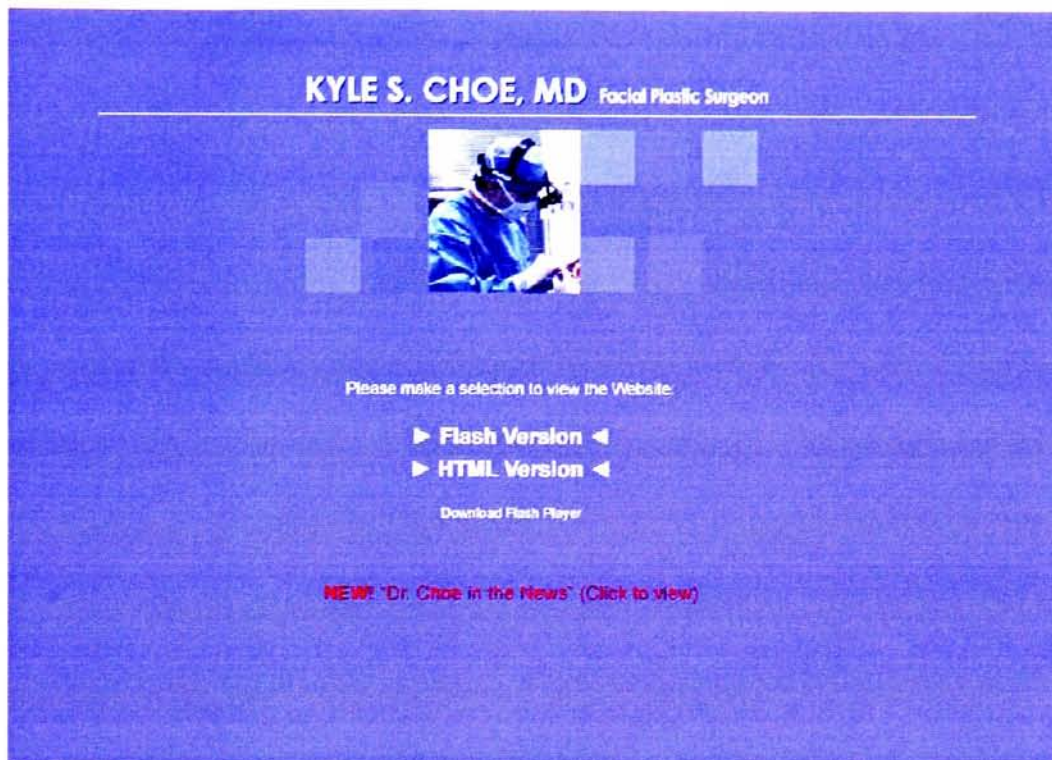


[Figure 28-2] “Frequently Asked Questions” page of “Forehead Lift” under “Surgical Procedures” of Flash website; When a question is clicked, the arrows on the right shows up, and the user can scroll up and down by clicking on the arrows to view questions and answers.

- Revision & Publishing Online

After creating both HTML and Flash versions of the website was done, the Illustrator created a basic introductory page as the initial site page of the whole site. The viewer can choose either “Flash version” or “HTML version” from this page, and if the viewer does not have a Macromedia Flash Player™ on his/her computer but wishes to view the Flash version, he/she can click on “Download Flash Player™” – which is directly linked to Macromedia’s Flash Player™ Download website. Also, the Illustrator added “News” link on this page, which provides Dr. Choe’s current news to the viewers.

After reassuring that all the links between the buttons of every page were properly working, the Illustrator published the HTML and SWF files on World Wide Web. Afterwards, the Client linked this website to his medical center's website.



[Figure 29] Initial interface of Dr.Choe's homepage

[Footnote]

6. Professor in the department of Medical Illustration in College of Imaging Arts and Sciences at Rochester Institute of Technology
7. Among GIF, JPG and PNG formats for digital artwork, GIF format is recommended for line art. However, the Illustrator had scarcely worked with GIF files in the past, and felt more familiar with JPG files. Therefore, the Illustrator ended up saving digital illustrations in JPG format for HTML, out of personal preference.

IV. Part THREE

- Conclusion of the author

As a Medical Illustration student at RIT, I was taught and trained to be “jack-of-all-trades” for almost every possible area of scientific/medical art market in the field. It went from drawing, painting and digital illustration to 3D modeling, 2D/3D animation and creating websites. From all the tools that I’ve learned to pick up and use, my choice of Thesis project required me to focus on developing and using some specific tools. It pushed me to enhance my Graphic Design skills, and explore how to use Macromedia Dreamweaver™ and Macromedia Flash™ extensively. At a glance, my Thesis project may appear to include only small quantity of what would be considered a “pure Medical Illustration”. That was my concern too in the beginning; “Is this more of a project that a Graphic Designer would do than a Medical Illustrator?” But, while expressing such concern to professors and classmates at RIT, I was challenged to broaden my view. With the change and development of the society, no single source stays in its purest form, but requires aid of another to maximize its potential. What I mean is, while a painting of a human body organ may be regarded as the pure form of a “Medical Art”, if it cannot reach its target audience that need the education of human anatomy in visual form, the artwork is not serving its purpose. Dr. Kyle Choe, to whom I refer as “the Client” in this literature, was in need of someone who was capable of understanding human anatomy and creating artworks that are relevant to the field of study, as well as creating and managing websites. As a Medical Illustrator, I met his needs, and thus the project was

born between the two people. The whole process took me about eighteen months out of my two years at RIT majoring in Medical Illustration, and I am confident that I'm better equipped now than when I first started working on the Thesis, to serve as a Medical Illustrator in any area of Medical Illustration that I am called to serve. I do not possess all the skills it takes to be a true "jack-of-all-trades" Medical Illustrator; that would take more than a lifetime. But, I have more confidence to meet the challenges to further my knowledge and accomplish a project should a task be given to me.

I would like to thank Professor Glen Hintz, Professor Jim Perkins and Professor Peter Byrne for agreeing to be in my Thesis Committee, and taking their time to review my project during the process of being built. Thank you for all your inputs, and being so patient with me. Every time I met with any of you, I felt the teacher's genuine love toward a student. Thank you for such input in my life.

I would also like to thank the person who initiated this project; Dr. Kyle S. Choe. It was my pleasure to have been working with you. Thank you for patiently waiting to see the end product for so many months. The experience has helped me prepare myself to meet the challenges of the work field after graduation.

Thank you, all my friends and family, for praying for me to keep pressing on to see the end result of this project. Without your encouragements and prayers, this project would have taken me forever to finish!

And, thank you, God, for having been with me through every hour of my work.

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Finally, most of all, thank You, God, for having been with me through every hour of my work. All my achievements are for Your glory.

V. BIBLIOGRAPHY

a. Existing Facial Plastic Surgery Websites for Design Ideas Reference and Their Critique

www.perkinsvannatta.com

- The layout design, color choices for the font and other elements gives it an elegant atmosphere, but the text does not contain enough information.

www.newyorkfacialplastics.com

- Thoughtful color choices & layout design.
- The Client appreciated how on this website, when you roll-over the mouse on a name of a surgical procedure, the area of the face where the particular surgery would be performed is highlighted.

www.beautyme.co.kr

- A bit too vibrant and fast-paced.
- The Client appreciated the logos of the different procedures, and the modern look of the website.

www.renewyourlooks.com

- Its overall presentation and the soft transition between the pages are creative and sophisticated.

www.beverlystyle.com

- Good choice of colors.

www.atyourbestlook.com

- The website is too fast-paced and confusing in terms of navigation.
- The Client appreciated the “introduction music” and the changing of photographs.

www.tulsacosmeticsurgery.com

- The changing photographs of the patients are a good feature.
- Dr. Choe appreciated the background pictures and their formats.

www.faceliftusa.com

- The layout design is pleasing to the eye.

b. Other Websites that were viewed for Design Ideas Reference

www.quatela.com

www.rochesterplasticsurgery.com

www.eyes-clinic.com/double.html

www.aafprs.org

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www.nikerunning.co.kr

www.donggab.com

www.foulds2000.freerve.co.uk.port_index.htm

www.designory.com

c. Reference Books

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By Darcy DiNucci with Maria Giudice & Lynne Stiles

Pitchpit Press, 1998. 2nd Edition

“Flash 5! Creative Web Animation”

By Derek Franklin & Brooks Patton

Macromedia Press, 2001

“Dreamweaver 4 HOT Hand-On Training”

By Garo Green – developed with Lynda Weinman

Lydia.com/books